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Review Article

AJAS

Its All About Basics



INTEGRATING AYURVEDIC TRADITIONS WITH MODERN MEDICAL PRACTICES: A COMPARATIVE STUDY

Preet Bang^{a*} | Shrutika Sarode^a | Mrunali Bhosale^a

AFFILIATIONS:

^aResearch Associate, ICRO

CORRESPONDENCE:

Preet Bang, Research Associate, ICRO,
Pune

EMAIL ID:

preetbang@gmail.com

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ABSTRACT:

The Indian medical system known as Ayurveda was developed during the Vedic era. Since ancient times, Ayurvedic knowledge has been documented and disseminated in Sanskrit. Ayurveda literally translates to "the science of life." Whereas Veda alludes to Knowledge, Ayus refers to Life. The two main authoritative texts are the Sushruta Samhita and the Charaka Samhita. Ayurveda takes a comprehensive approach to health and homeostasis, taking into account the environment, the soul, the mind, the emotions, and the physical body.

Ayurveda is a firm believer in the idea that humans are but a little part of this vast universe. Ayurvedic notions like Panchamahabhuta, Tridosha, Sapta Dhatu, Srotas, and Prakriti Purusha are among the intriguing ideas to learn about. At the atomic, molecular, cellular, biochemical, organ system, organism, and population levels, these notions depict an organism. This essay aims to emphasize the significance of Ayurvedic fundamentals in respect to modern science.

KEYWORDS: Ayurveda, Loka, Panchamahabhuta, Purusha, Sapta dhātu, Samskrita, Srotas and Tridosha

INTRODUCTION:

The Indian medical system known as Ayurveda has its roots in the Vedic era. Since ancient times, Ayurvedic knowledge has been documented and disseminated in Sanskrit. Ayurveda literally translates to "the science of life." Whereas Veda alludes to Knowledge, Ayus refers to Life. The two main authoritative texts are the Sushruta Samhita and the Charaka Samhita. Ayurveda takes a comprehensive approach to health and homeostasis, taking into account the environment, the soul, the mind, the emotions, and the physical body. Ayurveda firmly adheres to the Loka theory. Samyata Purusha- Purusho Sammitah loka ayam. Similar fundamental principles control Loka, which is a different level of outer entity that can be experienced, and Purusha, which is any living being or distinct unit of existence that is a miniature/ Pratima/reflection of this glorious cosmos.

The Ayurvedic notions of Panchamahabhuta, Tridosha, Sapta Dhatu, Srotas, and Prakriti are a few of the intriguing ideas that illustrate the interdependence of the microcosm and macrocosm and are probably still applicable today. These ideas depict an organism at several levels, including atomic, molecular, cellular, and organismal, organ systemic, biochemical, and ultimately population levels. This essay aims to provide a detailed explanation of each of these ideas in order to highlight the ayurvedic understanding of the body and its continued applicability in modern medicine.

Review of Literature

The core principles of Ayurveda are firmly grounded in the concept of Loka Purusha Samya vada, which means "similarity between man and universe." As Acharya Charaka explains, Charaka This is among the core ideas of Ayurveda and Indian philosophy (Patwardhan, 2015). Mouse microscopic structure on the left, and a computerized universe model on the right 5 out of 1 Samhita Sharira Sthana.

The human body is this universe's miniature (Acharya, 2001). It is interesting to consider how the structure and functions of the macrocosm and micocosm are comparable. The idea of "yat pinde tat brahamande" in the Vedas denotes the peaceful continuation of interdependent relationships between living things and non-living entities throughout the universe. Pinda represents a microcosm. the tiniest tiny atoms, molecules, and cells, whereas Brahmanda, the macrocosm, symbolizes the earth, stars, and other celestial bodies. Pinda and Brahmanda have dynamic, interdependent, and interrelated relationships. Patwardhan (2015) said.

The neuron, the smallest functional unit of the neural system, is referred to as Pinda, and the world as a whole as Brahmanda. It's possible the comparison is accurate. They are strikingly similar. According to scientific theories, the number of neurons in the human brain and the number of stars in the galaxy are about equal. As a result, everything in the cosmos is related.

This is among the core ideas of Ayurveda and Indian philosophy (Patwardhan, 2015).

Macrocosm and microcosm's organizational structures and structures remarkably resemble each other. Mouse microscopic structure on the left, and a computerized

universe model on the right.

Theory of Panchabhuta - Atomic Level

Sutra sthana 9/1-2 Astanga Hridaya This universe is constituted of everything.

of the Akasha, Vayu, Tejas, Jala, and Prithivi, the five primal energies. The commonalities between the Microcosm and Macrocosm of basic forces like earth, water, fire, energy, air, and space are explained by the panchamahabhoota theory.

The structure of the Mahabhutas and complex substances is described by Acharya Vagbhata, and it has a remarkable degree of similarity to the structure of atoms reported by contemporary science (Shastri, 2005). According to him, in the formation of penta-elemental substances, pruthvi, or subtle solid matter, replaces mass or the nucleus, around which the other bhutas assemble in various configurations to form many material types. According to Tripathy (2009), it can be related in the following ways.

- Prthvi bhuta is the same as the atom's nucleus, which is claimed to hold almost all of an atom's mass, which is made up of protons and neutrons.
- Ap bhuta functions as a type of glue to hold together different components and maintain rapidly moving electrons.
- Teja is a symbol for electromagnetic energy and energy levels connected to charged particles.

All types of electron motions and wave characteristics are attributed to Vayu.

Akasha is the enormous expanse of nothingness. between the energy shells and the nucleus. Understanding the Ayurvedic notion of cosmogenesis and the evolution of matter and life can open up new avenues for medical research by fostering a completely new way of viewing life, the causes of disease, and the treatment of it above the current materialistic level of scientific comprehension.

Level of Molecular/Omics in Tridosha Theory

Sutra sthana 21/8, Sushruta Samhita here are primarily three categories of individual and universe phenomena (Acharya, 2005). They're-

- 1) Visarga: That which binds or provides strength
- 2) Adana: This is in charge of digestion or transformation.
- 3) Vikshepa: in charge of motion. These activities preserve the environment's equilibrium.

The characteristics of the moon in the environment serve to keep molecules intact and aid in growth and feeding. Transformation, or thermogenesis, occurs in response to solar radiation. All forms of movement are represented by wind.

The characteristics of the moon in the environment serve to keep molecules intact and aid in growth and feeding. Transformation, or thermogenesis, occurs in response to solar radiation. All forms of movement are represented by wind. In the same way, Tridosha-Kapha, Pitta, and Vata keep every bodily function in balance. The human body changes both structurally and functionally in response to environmental perturbations. Therefore, a major factor in the genesis and cause of diseases is any divergence from the macrocosm's regular structure and function.

According to Ayurveda, matter consists of five Mahabhutas, or primordial components. They are earth (Prithivi), fire

(Tejas), water (Jala), air (Vayu), and space (Akasha). Together, these five mahabhutas are known as Vata, Pitta, and Kapha, which are the three Doshas.

Aspects of the human body are governed by principles known as the Doshas. Vata is composed of elements with Vayu and Akasha qualities. Pitta is created from the elements with Teja and Jala's qualities. Combinations of the qualities of Prithvi and Jala produce Kapha.

Ayurveda sees the human body primarily from a functional perspective. It has determined three primary roles for this: mobility, metabolic modification and transformation, and development, nourishment, and support. The Sanskrit language of ayurveda refers to these as Vata (V), Pitta (P), and Kapha (K), respectively. outlines the general purposes of trichomonas. Everybody has a certain Vata, Pitta, and Kapha ratio. This is linked to the person's phenotype and is referred to as their psychophysiological constitution (Hankey, 2010; Sharma, 2016).

Although Tridosha theory can be interpreted at any level of systems biology, this work aims to suggest that it may reflect the molecular level, which is the next grosser level after the Panchamahabhuta level. The molecular interpretation of Tridosha theory is as follows. According to one study, vata and pitta can be related to membrane-bound signal transduction, kapha and gene expression as protein synthesis, and pitta and kapha to the phosphorylation and dephosphorylation of various proteins (signaling moieties and enzymes). Collectively, these metabolic processes support the body's defense system as a whole (Tripathi, 2000).

Ayurveda describes seven major structural entities (rasa, rakta, māmsa, meda, asthi, majjā and cūkra) that maintain and support the body at the cellular and biochemical level. The earlier dhatu feeds the following in a consecutive fashion. The intriguing workings of Dhatu Poshana (Tissue feeding) are explained by Ayurveda using the Nyaya Traya hypothesis. The primary promoters of tissue feeding are Agni and Srotas, which work in tandem through the three pathways listed below (Singh, 2009):

1. Kedari Kulya Nyaya - The pinnacle of tissue perfusion and microcirculation: According to this maxim, the Dhātus is fed by countless microvascular channels that are present throughout the living body. The tissues and cells receive a plasma perfusion. However, tissue perfusion is not enough to finish the nourishing process on its own. The other two mechanisms must work in tandem to accomplish this.

2. Khale Kapota Nyaya - This term describes the way that individual cells and tissues selectively absorb nutrients from the bloodstream, much like birds do when they gather grains and cereals from a shared harvesting area. This is because the common harvesting ground provides a complete pool of nutrients to all tissues, but different Dhatus require different specific nutrients, necessitating active selective uptake. For instance, the Rakta Dhatu will only take in nutrients like iron and so on, while the Asthi Dhatu will mostly absorb minerals like calcium and phosphorus. which are required for blood coagulation.

3. The last stage of nutritional absorption and assimilation into the tissue system is symbolized by Shira Dadhi Nyaya. Since this is extremely similar to how milk is turned into yoghurt, Kshira Dadhi Nyaya has been employed.

- Para Ojas: The creation of the body's essential essence, known as Ojas, is ultimately the result of the processes of Dhatu Nirmana (formation of dhatu) and Dhatu Poshana (nourishment). According to Ayurveda, there are primarily two types of ojas (Singh, 2009). The tiny amount of Para Ojas, which corresponds to eight droplets figuratively, is found in the heart. Damage to Para Ojas results in immediate death, demonstrating the critical significance of this type of Ojas.
- Aparā Ojas: This relatively repulsive condition affects the entire body. It is in charge of the body's immunological processes. This Ojas functions as biological strength, or Bala. Three types of Ojo Bala have been described in Aurvedic texts, particularly (Acharya, 2001).Sutra sthana 11/36, Charaka Samhita.
 - 1) Yuktikrita Bala, which is similar to artificially induced immunity (vaccinations) produced by therapeutic planning and intervention;
 - 2) Sahaja Bala, which is similar to innate immunity;
 - 3) Kalaja Bala, which is similar to naturally acquired immunity as an impact of time and other environmental factors. The Srotas system's integrity is necessary for Ojobala's genesis and operation (Macro and micro channels).

The three types of immunological illnesses that are described in Ayurvedic writings are as follows (Acharya, 2005).Sutra sthana 15/24, Sushruta Samhita.

Ojovisramsā, which resembles displaced immunity as it is observed in cases of autoimmune diseases and many other similar immune disorders; 1) Ojovyapada, which is akin to an early curable immune disorder; 2) Ojokshaya, which denotes an actual immunodeficiency such as AIDS. In addition to a number of extrinsic influences operating through the environment and discordant lifestyle choices, such diseases of Ojas are intimately linked to endogenous factors such as disturbance in the integrity of Srotas and Agni.

Srotas: Level of Organ System

The basic word "Sru-gatau," which meaning to go, move, flow, seep, secrete, filter, etc., is where the term "Srotas" originates. Srotas is often defined as "Sraṇata Srotamsi," the channels or structures that facilitate the movement of bodily fluids, waste products, nutrients, and sensory data. "Srotomayam hi Shariram" (the living body is made up of countless channels that represent the dynamic inner transport system of the physique-psyche and soul organization) is a statement supported by the classic Ayurvedic texts. It denotes all macro and micro channels and pathways intended for various functions, both gross and subtle, distinct and indistinct, anatomical and physiological (Acharya, 2001).

An essential part of physiology is the Srotas. The healthy operation of Srotas is necessary for the transportation of nutrients to the tissues and organs, the regulation of physiological variables, the release of energy, and the

bioavailability of medications. Impulses, feelings, and thoughts are sent through the more delicate Srotas.

According to Singh (2009), Srotas is understood as follows in the modern era:

The body is one extended canal. The subtle and gross routes of physiology.

Emotional pathways and subcellular structures, millions of microtubular structures.

Networks, receptor mechanisms, and membrane potentials. The Nadis, Koshas, and Chakras. The significant Ayurvedic classic Charaka Samhita illustrates how the major physiological systems of the body as they are portrayed in the modern medical system are similar to the Srotas-gross channels. Two primary organs, referred to as the Mulam or "Mulamiti Prabhavasthanam," along each Srota's journey. The multifaceted well-being of the corresponding srotas is enhanced by these mulas. These crucial channels each serve as the internal transport mechanism. technique (Singh, 2009).

The scriptures also mention Manovaha Srotas, another significant conduit for the dissemination of mental and emotional emotions. According to legend, Hridaya (Buddhervivasm Hridayam) is the Mulam of Manovaha Srotas. The writings explain the illnesses associated with these channels' vitiation and its causes. As a result, Srotas is a general term that may be used to describe a variety of structures, purposes, and contexts.

The neuron, the smallest functional unit of the neural system, is referred to as Pinda, and the world as a whole as Brahmanda. It's possible the comparison is accurate. They are strikingly similar. Researchers estimate that there are nearly as many neurons in the human brain as there are basic biological cells. the galaxy's stellar population. As a result, everything in the cosmos is related. This is among the core ideas of Ayurveda and Indian philosophy (Patwardhan, 2015).

Prakriti: Level of the Organism

Sukha Samhita, Sharira Samhita 4/63 .The person's Prakriti, or constitution, is determined by the heightened condition of doshas in the shukra (sperm) and artava (ovum) at the time of fertilization (Acharya, 2005). These increased doshas have the potential to cause problems, however during the creation of

In prakriti (constitution), doshas have an inherent appropriateness that is harmless to the body. Therefore, an enhanced yet balanced state of doshas produces a constitution.

In various settings, such as samya (equilibrium), Arogya (health), svabhav (nature), karana (cause), and bodily constitution, the word "prakriti" (constitution) can mean different things. According to its etymology, "Prakriti" (pra = primary or first, kriti = formation or creation) refers to the fundamental model that embodies each person's unique developmental variations.

Ayurveda approaches the subject of deha prakriti, or physical constitution, in a very descriptive manner. Our acharyas have listed a number of variables that combined make up an individual's physical and psychological makeup. These elements can be combined or permuted to produce independent or mixed prakriti (constitution). According to

Rastogi (2010), a person's unique blend of physiological, physical, and psychological traits results in their Prakriti, which has seven variations based on which dosha is dominant. Prakriti is an intriguing idea based on Ayurvedic fundamentals that clearly influences predictive medicine. Understanding a person's prakriti is helpful in comprehending health and illness. In the six-level hierarchy, this idea stands in for the Organism level since it closely matches the definition of a "organism," which is a continuous biological system with the capacity to adapt and preserve a specific structure and behaviour. The Human Genome Project has attempted to determine whether human Prakriti can be inherited by looking for positive

connection between particular alleles and variations of Prakriti. The next step toward this correlation is the identification of biological correlates. Ayurveda appears to be the source of customized medicine, or P4 medicine, which is today quite popular in the west. Leroy Hood of the Institute for Systems Biology is the one who first used the term "P4" medicine. Participatory, predictive, preventive, and individualized medicine is what it is.

Level of Population

The population level comes after the organism level. These days, the entire cycle representation is referred to as Ayurvedic Systems biology. By using Prakriti as a classification method, the human population's genetic variety can be better understood. In terms of therapy, this is useful in classifying the human population into groups such as those that are drug-responsive or non-responsive, disease-prone, or disease-resistant. In every aspect, this classification would be extremely beneficial to humanity.

CONCLUSION:

Ayurveda offers a global viewpoint on health, life, and even the smallest atoms, cells, and molecules. Panchamahabhutas is the atomic symbol level, with Prakriti denoting the organism level, Srotas representing the organ system level, Sapta dhatus representing the cellular and biochemical level, Tridoshas representing the molecular or omics level, and lastly the population level. As a result, the idea of Loka and Purusha takes a holistic approach to humans, stressing that they are more than just a collection of cells or tissues rather, they are a harmonious body, mind, and soul. In every area of human endeavor, including pharmaceuticals, nutrition, genetics, and preventative care, Ayurveda has a great deal to give. Each of these ideas is fundamental to Ayurvedic treatment and diagnosis.

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