

VEDIC MEDICAL MICROBIOLOGY AND EMERGING INFECTIOUS DISEASES

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Abstract

The establishers of Vedic culture (rishis & Ayurvedacharyas) knew the disease producing ability of microbes. So, they formulated large number of antimicrobial drugs and their combinations. And most importantly, the Yag and Yagna Technology besides Rasayana therapy and Panchkarma.

Infectious diseases and its forms-emerging infectious diseases (ETD) and reemerging infectious diseases are now a great challenge for modern microbiologists. New avatars of pathogens have started terrorizing the humans. Most Pathogens (Mycobacterium tuberculosis, Staphylococcus aureus, etc.) have upgraded their gene and have become drug resistant to antibiotics.

The changing climate, biotechnological 'error' and 'manipulation' [against natural law (Rta)] with respect to microbial physiology, biochemistry, and genetics; and other factors have favoured pathogens. The cause of (microbial) diseases are beautifully summarized in Ayurveda into three groups

- 1. Unsuitable use of the senses Asaamya Indriyaartha Samyoga;*
- 2. Faulty Judgment or Intellect Error Prajnaa Apraadha; and*
- 3. The effects of time --Parinaama*

This paper seeks to analyze and emphasize that Vedic medical microbiology has capability to deal with the infectious diseases and its forms. As forecasted by Astrologists and Scientists, the coming years are highly crucial for human lives with respect to diseases. Therefore, instead of solely depending on (western guided) WHO (World Health Organization) we must strictly follow indigenous- Vedic Health Ordinances (VHO).

INTRODUCTION

Vedic civilization is the oldest thriving culture more than 17,50,000 (17 lakh 50 thousand) years old- as revealed by the scientists of NASA.¹ Obviously, our 'Vedic' forefathers had successfully dealt with microbial diseases. This idea or confidence for 'obviousness' is due to availability of grand old human-guiding texts - Veda, Ayurveda, and other allied Sanskrit literature. Wherein, the Vedic sages expressed their "Idd Na Mmam -nothing for self all for society" centered ideas in a very compressed manner.

Vedic Civilization and Microbial Diseases

Like other civilization, Vedic civilization has

encountered the microbe led infectious diseases and other diseases as depicted in the Vedic literatures. Death of individual person and masses due to microbe nuisance have took place in hoary past. For destruction of any civilization, large numbers of factors are required. Disease is one of such factor. In other words, it can be assumed that the microbial diseases has played important role in destruction of most of the the civilization. How other civilization(s) has dealt with microbial diseases remains a puzzling question; but the Grand Vedic Civilization has conquered the 'death'.

Thus, it can be stated that Vedic culture is "absolute culture" because it conquered the hurdles of Desh (country), Kaal (time) and Parishthiti (cir-

cumstances) and still thriving and guiding whole humankind. Veda-Ayurveda give us essential information on various kinds of infectious epidemic diseases and remedies against it. Therefore, it becomes necessary to look back into these oldest Sanskrit texts for combating the infectious epidemic diseases.

VEDIC MEDICAL MICROBIOLOGY

Vedic Medical Microbiology incorporates the medical facet of microbiology that is readily found in Veda-Ayurveda and other allied Sanskrit texts. Microbiology thus was integral part of Vedic medicine and post-Vedic medicine. In addition, expanding evidences leads us to believe that certainly it was taught in the Vedic universities-Takshasila, Nalanda, Vikramshila and other Gurukulas. Charak (Sutrasthana 10.8) has enumerated eight kinds of hurdles in direct knowledge. One of them is Atishokhamyat - Unable to view objects due to its minuteness or invisibleness. E.g. Microorganisms. Adrista, Krimi, Jantuanava, Sudrajantu, Durnamaha, Rakshas are some of the scientific Sanskrit terms for microorganisms employed in the Vedas. Ayurvedas and other texts. Large number of suktas in the Veda (e.g. Kankotana sukta in Rigveda; KrimiNashnam, krimijambhana, krimiGhanam suktas of Atharvaveds etc) and Ayurveda texts like Charak Samhita, Susruta Samhita, Madhava Nidhana, Astaga hridaya, Ras Pradipa, Arka Prakasha; in the Mahabharata and Puranas there are enormous Microbiological centered data that compels us to believe that Microbiology is indigenous science of Vedic Bharat, Hence the name Vedic Microbiology and in turn Vedic Medial Microbiology.²

Vedic Medial Microbiology

Rishi Agastya, Rishi Kanva and his descendants, Rishi Badrayani, Rishi Chatana, Maharshi Veda Vyasa, Maharishi Charak, maharishi Susruta, Mahapundit Ravana, Bhava Mishra, Bhel, Surpala and many other Medical man of Bharat Varsha were also the earliest Microbiologist.

ORIGIN OF (MICROBIAL) SPECIES AND

MAYA

He who knows the Pipala tree (in the form of creation); which is said to imperish with its root in the Primeval Being (God), whose stem is represented by Brahma (the Creator), and whose leaves are the vedas, is a knower of (the intention of) the vedas. Bhagwad Gita 15.1

The infinite, God, is the ultimate cause of all finite creation. He projects the power of Maya, the storm of delusive relativity the illusion that the One has become the many which, blowing over the ocean of His Being and His vibratory wish to create, stirs into manifestation the waves of finite creation.³

Manifesting himself as the creative cosmic intelligence vibration, and using the help of the storm of delusive relativity, God forms out of himself all finite vibratory waves of mind, energy, and matter: electrons, protons, atoms, molecules, cells, and blocks of solid matter cluster, of island universe floating in the sphere of space, surrounded by wandering radiations.⁴

Thus Intelligent Cosmic Vibration is the first manifested cause of all created things, though the different finite forms of matter are created or caused secondarily by arrangement and combinations of certain basic forms: cells derive from molecules, molecules from atoms, atoms from electron and proton, electron and proton from lifetrans and lifetrans from thoughtrons of the infinite.⁵

Thoughtrons is the name given by Sri Sri Paramahansa Yogananda to the first and most subtle manifestation of the creative vibration emanating from spirit: the primal ideas behind all matter. Thoughtrons compose the ideational or causal universe, from which emanates the astral universe of lifetrans, intelligent life energy; from which in turn emanates the physical universe of gross atomic energy.⁶

Therefore, it is evident that microbial species, that are part of this Sristi (Creation) are obviously possessed by "conscious" factor i.e SOUL,

which directs them to follow the cosmic law and order(Rta). Thus, the Karma bonded souls within microbes are responsible for their beneficial or detrimental trait (cf.Law of Karma). Thus from the view of Bhaartiya Darshna pathogenic microbes are the "agent" of Maya and Death. Because such pathogens prevent the Human beings from attaining the four fold purushartha of Vedic life.

[That why in the many of the Atharvavedic mantras microbes/insects/pests are ordered by the Rishis to stop their nuisance.]

INFECTIOUS DISEASES (Aagantuk Rog ; Janpadodhawansa rog) EMERGING INFECTIOUS DISEASES (EID) AND REEMERGING INFECTIOUS DISEASES A GLOBAL CONCERN.

Infectious diseases remain the number one cause of death around the world, and the global upswing in new and reemerging microbes increases the danger to us all. The reality of that threat was dramatized recently by worldwide concern. Several states of Bharat were under the grip of infectious diseases and Emerging Infectious diseases.

According to the Centers for disease Control and Previntion (CDC) "Emeging" infectious diseases are those infectious diseases whose incidence in humans has increased during the past two decades or threatens to increase in the near future. These diseases include West Nile virus infections, tuberculosis, AIDS and Severe Acute Respiratory Syndrome (SARS), among many other.⁷

By one estimate, there are at least 5,000 kinds of viruses and more than 3,00,000 species of bacteria that challenge human beings, many of which are to replicate and evolve billions of time in one human generation.⁸ Globalization, modern medical practices, accelerating urbanization, and climatic change resulting from global warming and social and behavioral patterns have contributed in evolution of new kinds of microbes and spreading of infectious diseases.⁹

List of Emerging Infectious Diseases

Tickborne hemorrhagic fever viruses, Tickborne encephalitis viruses, Yellow fever, Multi-drug resistant TB, Influenza, Other Rickettsias, Rabies, Prions, Chikungunya virus, Severe acute respiratory syndrome- associated coronavirus (SARS-CoV)¹⁰ and others

RE-EMERGING PATHOGES

Enterovirus 71, Clostridium difficile, Coccidioides immitis, Mumps virus, Prion diseases Streptococcus group A, Staphylococcus aureus and other.¹¹

Emerging Infections in Asia and the Pacific Region

a number of important global diseases, such as influenza, dengue, Japanese encephalitis, tuberculosis, and pneumonia, are endemic to the region, as are the newly emerging Hendra and Nipah viruses.¹²

View of Vedic Medical Microbiologists (Vedas-Ayurveda)

Literally, in Ayurveda, Infectious diseases is Sankramak Rog, Daivavala or Upasarga, that comes under the ambit of Aagantuk Rog and Janpadodhawansa rog.

According to Susruta, "The diseases that are produce by the tyranny of the Gods (through thunder and lightning), through curses (phobia), Sorceries of the Atharvaveda (infectious diseases), and through contagion (syphilis) are daiva-vala (god-sent, i.e. beyond human control). These diseases are of two kinds as occasioned by thunder- lightning or by demons (infectious diseases as cholera or small-pox). Again, they are of two kinds through accidents (as thunder lightening) or through contact (as syphilis)"¹³

Again Susruta states that "The infectious disease gets transmitted from one person to another due to sexual intercourse, touching the body parts repeatedly, on contact with the air droplets inhaled, eating, sleepig with diseased person, wearing the

dress and necklace of diseased person, using the ointment of diseased person. Skin diseases, fever, inflammation, diseases of eye (conjunctiva) are such diseases that get transmitted from one person to another.¹⁴

Charak states that the first cause of illness is the loss of faith in the Divine. In other words, when a person does not have the experience that God is inside us, an, outside in all things, this separation of vision creates a gap in which longing and suffering for oneness of vision occurs. This suffering is the beginning of spiritual, mental, and physical diseases. External causes of health include time of day, seasons, diet, and lifestyle.

Gopatha Brahmana, an allied text of Atharvaveda, emphasizing on Yagna states "Elaborate rituals like caturmasya yajna (can be called medicinal-yajnas) for they are meant for the prevention of diseases. They are performed during the transition of seasons only because during these days epidemics crop up"¹⁵

Dengue and Chikungunya - A case study (Taken into account because by dint of Ayurvedic remedies its spread was brought under control)

Recent cases of Chikungunya (13,270), Dengue (3,800) has raised the issue that our country is highly susceptible to Infectious diseases.

Dengue (caused by *Aedes aegypti*) and Chikungunya (caused by *Aedes albopictus*), both have struck different parts of India in a deadly way during this monsoon season (of year 2006).¹⁶

Dengue is a viral disease common in tropical especially in areas where mosquitoes are not well controlled. Transmitted by the *Aedes* mosquito, both dengue and Chikungunya spread when the mosquito bites an affected person & then a healthy person.¹⁷

A part from Delhi, the States affected by the dengue virus are Rajasthan with highest 1224 cases, followed by Punjab with 922 cases and West Bengal with 864 reported cases. Other affected states are Kerala, Uttar Pradesh, Maharashtra, Gujarat,

Haryana, Tamil Nadu, Andhra Pradesh and Karnataka.¹⁸

Dengue is Paitrik Jwara in Ayurveda. As per Ayurveda, those person who are of Pitta Prakriti (pitta constitution) are more susceptible to be bitten by the mosquito. Because the person having the pitta prakriti have somewhat high body temperature than others. Moreover persons who regularly eat junk and fast food are more susceptible to dengue. Pizza, hotdog, panipuri, paubhaji, spicy foods, Punjabi - these kinds of food increases the body temperature. Such type of food gives favourable environment for the virus. The best Ayurvedic medicine for dengue is godanti and ardusi rasa according to Vaidya M.H. Barot, Ex. Dean of Akhandananda Ayurvedic College, Ahmedabad.¹⁹

Chikungunya fever has reemerged in India, with thousands of people reporting moderate to high fever with arthralgia and arthritis. In Ayurveda symptoms of Chikungunya is similar to Sandhigat Sannipata Jwara according to Dr. Anirudh Pratap Singh, IFS and Director of Indian System of Medicine and Homeopathy in Gujarat Government. He had made effective herbal composition based on Ayurveda against Chikungunya when this infectious disease hit Gujarat.

The perspective of Ayurveda towards the infectious diseases and its form is wider than that of Allopathy. Because Ayurveda has large number of remedies according to the prakriti of a person. If ayurveda is followed strictly than without going to the laboratory a patient can get instant cost effective remedy.

"It has been estimated that 70 percent of emerging infectious diseases in humans are due to bacteria and viruses that normally infect only animals."

It has been specified in Charak Samhita that infectious disease develops in man due to ingestion of decayed and infected meat.

The ancient Vedic literatures are flooded with

the remedies against all kinds of diseases in human, animals, and plants. We have to switch back to antimicrobial remedies inscribed in these sacred Sanskrit texts. Why to spent money for making new generation of antibiotics?

The emergence and remergence of disease agents can be attributed to -

1. Evil Actions / Adharma- According to Charaka the nature of transmigration is controlled by the virtuous or vicious deeds of a man. The productivity of nature, its purity or pollution etc., are also determined by good and evil actions (karma). Charaka refers to the collective evil effects of the evil action of people living in a particular locality, which leads to the outbreak of epidemics. Because of the evil actions of the people of locality, the Gods abandon that place. There is no proper rain. The air, water, and the country as a whole become polluted. Epidemics break out.²⁰ [Changes in human behavior].
2. Unprecedented worldwide population growth.
3. Increased international travel.
4. Increasing worldwide transport of animals and food products.
5. Changes in food processing and handling.
6. Multinational Allopathy Pharma Companies- Many banned drugs are introduced into the developing nation by hook or crook means. New drugs are tested here on poor patients. Doctors are lured to write their products.
7. Microbial Gene Manipulation / Biological war - Microorganisms are manipulated in the biological laboratories and for testing their degree of pathogenicity; they are introduced into the developing countries. Big Pharma companies spends huge amount of money for making highly infectious microbial species. In addition, they make drugs against those "manipulated pathogenic microbes."
8. Corrupt Laboratory Practices- Many laboratories are handled by unskilled laboratory technicians due to which pathogens skip the laboratory by various means.
9. Greedy Doctors- Today the doctors rely heavily upon various types of tests. Most of the doctors are unable to diagnose the diseases of the patients without going through the laboratory reports. It has both flip and flop sides. Greedy doctors are lured by Pharma companies to write their products. In doing so patients are unnecessarily exposed to unwanted medicines, which degrade their health or lower the immunity.
10. Fast food culture-Biotechnical modified food-- Due to fast food culture the digestive system of the body is adversely affected resulting in diseases.
11. Environmental factors (Deforestation, global warming)- Wastes-biological waste, pollution of river- epidemiologists have warned, for instance, the toxic algal blooms, fed by sewage, fertilizers, and other industrial and human contaminants from coastal metropolis in Asia, Africa, and Latin America contain countless viruses and bacteria. Mixed together in what amount to a dirty "Genetic soup" these pathogens can undergo countless changes, mutating into new, highly virulent antibiotic strains that can be quickly diffused by nautical traffic.²¹
12. Vectors- Human encroachment on wilderness habitats that are reservoirs for insects and animals that harbor infectious agents.
13. Degrading immunity level in Human-- Due to psychological imbalance, unethical sex, anti-Vedic way for procuring children.
14. Microbial evolution and the development of resistance to antibiotics and other antimicrobial drugs.
15. Anti Ayurvedic Life Style- There has been abrupt change in the life style of modern man, which is Ayurvedically not proper. Constantly adjusting and readjusting to the many alterations of hot

and cold can strain the internal mechanisms so that we lose our access to inner energy resources. Hormonal regulation becomes inefficient and our resistance to germs, viruses, and environmental changes becomes impaired. Colds result.

16. **Uncontrolled Mind and senses-** Charaka suggests that he who has his mind under control does not contract any disease (*satwam vidheyam*). Charaka also states "*manasastu cinthyamarthah*": "mind is: what thinks, it is its very nature to think; its field of roaming about is what the senses feed it upon; "do not allow it roam about; detach the mind from the senses and one has to control the mind oneself; "*citte calati samsarah-niscale mohsya uchyate*" samsara starts when the thinking mind moves about, if it stops doing so liberation or release is achieved (Krishnamurthy, 1991).
17. **Breathing Pattern-** Either due to ignorance or due to faulty life style the breathing pattern of normal human has abruptly changed. It is said in the *Swarga Vigyana* that during the day time left nostril should remain active while at night right nostril should be working. Due to abnormal breathing pattern persons becomes susceptible to infectious diseases readily. This is one of the most important and unnoticeable reasons for infectious diseases. No bacteria or virus can gain access to body if the breathing pattern is as per *Swara Vigyana* - The science of breathing.
18. **Time (Seasonal change) / Kaal** - During the transition period of seasons the incidence of epidemics takes place. The cold, occurs most often during winter. At this time the body's heating mechanism has to work twice as hard and if our resistance is low we become susceptible to infection by different viruses. Lack of inner energy, strength and defence are the underlying causative factors which allow viruses to proliferate and produce those unpleasant symptoms we know so well, such as running nose, sneez-

ing, reddening of the eyes, cough, and so on.

19. **Geographical correlation / Desh** - An epidemic occurring in a particular town or city suggests that a common factor such as particular water or food sources may be involved, as in Typhoid fever or bacillary dysentery.
20. **Astrological Influence:** According to Varamihira the comet named *Maniketu* is in the form of a tiny little star, rising in the west and visible only once for a period of only three hours. Its crest is straight and white like a streak of milk ejected from the breast. Even as it appears, it causes abundant food for four and half months; but it also helps the abnormal appearance of harmful creatures such as reptiles, venomous creatures, and the like.²²

There is no other therapy in the world except ayurveda that has large number of remedy to suit the constitution of different persons.

REMEDIES

Under the guidelines of WHO no satisfactory result have been obtained for controlling the menace of the infectious diseases and its form. For controlling the infectious diseases of any particular geographical areas, people of that area must take cognizance of the matter themselves.

A disease means that there is some disharmony in the body. It can be restored by numerous methods. Moderns limit their choice to only two methods- 1. Surgery; and 2. Oral medicine, whose source is often synthetic chemicals. However, Vedic sages had a variety of healing techniques, which had to be revived for dealing with Infectious diseases and its forms-- Emerging infectious diseases and Reemerging infectious diseases.

According to Vagabhatta (Author of *Asthang Hridaya*) the best defense against the diseases (*Nij* and *Agantuk*) are summarized as- adieu of Intellect error (*Pragyaparadha*), giving peace to Senses (*Indriya santi*), Memory (*Smriti*), Knowledge of Desh (country), Kaal (Time) and Atma (Soul); followings

right code of conduct; Atharvaveda directed rituals for peace and prayer to defiant Graha.²³

HERBAL ANT IMICROBIAL DRUGS/ RASAYANA

Plant based antimicrobials are effective in the treatment of infectious diseases while simultaneously mitigating many of the side effects that are often associated with synthetic antimicrobials. They are effective, yet gentle. Many plants have tropisms to specific organs or systems in the body. Phytomedicines usually have multiple effects on the body. Their actions often act beyond the symptomatic treatment of disease. An example of this is *Hydrastis canadensis*. *Hydrastis* not only has antimicrobial activity, but also increases blood supply to the spleen promoting aptimal activity of the spleen to release mediating compounds (Murray 1995).

Rasayana is so called because it has a beneficial effect on the 'Rasas' and other elements of the body and consequently the whole body. Rasayana treatment is done through sulphur, mercury, nux vomica seeds, neem, haritika, and amalaki.

MEDICAL HYDROLOGY

Water is the deity of many of the Vedic hymns. For example, Rigveda 1.191 is the sukta pertaining to toxicology. Water is also a deity here. Sage Agastya has mentioned that there are ninety nine rivers and seven big rivers to remove the influence of poison. Atharvaveda also emphasizes on water as Oushadi (that which washes away the doshas, wastes) i.e. medicine.

The body is mostly water thus water is necessary for flushing wastes and for maintaining the body. Drinking hot water is especially recommended to eliminate ama. Heat transforms (cooks) the ama and the liquids help transport it out of the body.

Water-

- a. Prescription for limited quantity of drinking water: Arochaka- loss of appetite, Pratisyaya--carrh or cold, Svayathu-- swelling, Ksaya--phthi-

sis, Mandagni--indigestion, Kushta--skin diseases (leprosy), Netra roga--eye diseases, Vrana--wounds.

- b. Prescription of cold water--Visha Rakta-- blood toxicity, Tamaka- vertigo, Vamana--vomiting, etc.
- c. Prohibition of drinking water--Navajvara (acute fever)
- d. Prescription of hot water--kasa(cough), Jvara (fever)
- e. Prescription of boiled and cooled water --Pitta dosha (digestive disorder), Sannipata (fever and vitiation of tridosha)
- f. Prohibition of stored water--drinking of water which become acidic on storage is prohibited as it increases kapha (regulation of body heat)²⁴

Urine-

Cow urine is drastic or intensive in action, it is Ushnam, generated bodily heat, alkaline bitter (tikta) and astringent (Kasayam) in taste, easily digested (laghu) increases the appetite (agnidipana), pitta (pittakarm), decreases kapha and vata, eliminated sula (pain) gulma (abdominal growth). Udara (abdominal disorders), Kandu (itching), netra rog (eye diseases) mukha rog (dental lips, tongue, gums, buccal, etc.), kilasha kushta (skin diseases and leprosy), Kustham (leprosy) Kasa (cough), sophia (swelling), kamala (jaundice), panduroga (anemia), atisara (diarrhoea) kosta krimi (intestinal parasites), pama (scabies)²⁵

TAKING FOOD AS PER DICTATES OF AYURVEDA

Bhagvadgita too stresses on the different types of food. "The foods that augment vitality, energy, vigour, health, joy and cheerfulness, which are savoury and oleaginous, substantial and agreeable are liked by the sattvika" (XVII-8). "The foods that are bitter, sour, saline, over-hot, pungent, dry, and burning are liked by the Rajasikas, and are productive of pain, grief and disease" (XVII-9). "That which is stale, tasteless, stinking, cooked over-night, refuse,

and impure is the food liked by the tamasikas”(XVII-10).²⁶

The biotech Genetically Modified plants can surely stop hunger but may not be able to produce tough body to fight diseases. Avoiding junk foods-- Pizza, hotdog, Panipuri, pau bhaji.

Charaka samhita states, “Measured diet not only does not impair one’s health but positively promotes one’s strength, complexion, health and life”. However, excess of vegetables is not conducive to good health.

KARMA and KARMAVIPAKA

Vata, pita and kapha are independent agents. They work in unison with a man’s Karma and also in unison with a man’s mind.²⁷

Charaka suggests that he who has his mind under control does not contract any disease (satwam vidheyam). Charaka also states “manasastu cinthyamarthah” : “mind is : what thinks, it is its very nature to think; its field of roaming about is what the sense feed it up; “do not allow it roam about; detach the mind from the senses and one has to control the mind oneself; “citte calati samsarah--niscal mohsya uchyate” samsara starts when the thinking mind moves about, if it stops doing so liberation or release is achieved (Krishnamurthy, 1991).²⁸

PLAYING MUSICAL INSTRUMENTS (SOUND THERAPY-VIBRATION THERAPY)

It has been proved that playing the sankha kills the microbes in the air. In Susruta Kalpasthana, Chapter III there is indication of dealing with epidemics by playing musical instruments. This is Sound Therapy. “The sound that is released out of the instrument relieves the community of the poisonous effect of an epidemic.”²⁹ When an epidemic takes place, it becomes impossible for physician to attend to all the patients individually. An instrument therapy is adopted in such circumstances.³⁰

Process

After smearing a drum with super lavigated

paste of the medicine to be given as a treatment, its beating is started at the towers of the temples. The sound waves thus created, act as a vehicle to carry the medicine in micro form. the patient staying in the medicine - enriched atmosphere, inhales it and thus receives the treatment. The sound - waves from temple towers remind about the cosmic energy.³¹

YAGNA TECHNOLOGY

The Vedic sages not only knew the effective way of environmental control but also the science of using air media for the control of epidemics. Yagna Technology is unparalleled; it is a Vedic- Biotechnique and it has Anti - Simulating action against pathogens. According to Ayurveda to refresh the atmosphere and reduce air - borne infection Guggul (Commiphora Mukul) and Ral

(Raisins) should be burnt. The above - mentioned Ayurvedic herbs act as ‘Rakshoghna’ i.e. protecting against the ‘bhutas’ (micro - organisms). The fumes of these herbs kill the microbes present in the air thereby purifying the atmosphere.

PANCHKARMA

The detoxification process is a comprehensive system of knowledge and practices to purify the body of toxins and restore it to balance with natural law. The most deeply seated toxins that cause diseases are heavy and sticky, lodging tissue layer. Panchkarma eliminates these toxins from the body, allowing healing permanently of the tissues, channels, digestion and mental functions.

[Microorganisms produce toxins. This has been clearly revealed in the Rigveda (1.191.) by Rishi Agastya and in Atharvaveda that microorganisms produce toxins.]

Panchkarma therapy is useful in Tuberculosis, Cholera, leprosy, worm infestation, Tumors, Tetanus etc.

Flush period (Shodhan Kaal) of Doshas

Doshas that aggregated in the winter has to be flushed out in spring season; Doshas of summer

has to be flushed out in Rainy season; Doshas of Rainy season has to be flushed out in autumn.³²

Yog

A yogic lifestyle makes the body and mind flexible so that we can better handle the stresses and strains of modern living. Through the science of prana a yogi becomes immune to the dual nature of existence so that heat and cold, pleasure and pain, sorrow and joy, all come under his control and are seen as inseparable phenomena. Heat generated in the body is an aspect of prana, the life - force. Yogasanas, pranayama, bandhas and mudras have been brilliantly developed from a thorough knowledge of the nadi system.

Pranayama

Atharvaveda implies that a disease in a person or animal is caused by a lack of harmony in the body, particularly in the flow of prana. The harmony can be restored in many ways. All these methods effectively try to restore the imbalance in the prana in the body.³³

Daily practice of nadi shodhana will induce calmness, remove pranic blockage and balance the flow of prana in the ida and pingala nadis, leading to a general purification of the body. This pranayama is an indispensable preliminary to meditation and should be practiced under the guidance of a teacher.

Surya Bhedana

Surya Bhedana cleanses the forehead (frontal sinuses), destroys the disorders of vata, and removes the parasites (microorganisms), and therefore, it should be performed repeatedly.³⁴

Preservation of Ojas

The Yogis say that the part of the human energy, which is expressed, as sex energy, in sexual thought, when checked and controlled, easily becomes changed into ojas. Ojas is stored up in the brain, and the more ojas is in man's head, the more powerful he is, the more intellectual, the more spiritually strong.³⁵ The practice of Sarvangasana,

Sirshasana restores the equilibrium of Ojas and perfect health.

AYURVEDIC HYGEINE

Hygiene addresses the exterior ama by advocating daily bath, clean, attractive clothing, tongue scraping, teeth brushing, and nail cutting, etc. in Ayurveda tongue is an indicator of the ama in the digestive tract and a proper routine includes daily tongue inspection. If instead of just being pink colored, the tongue has a coating - white (kapha), yellow (pitta), brown (vata) -- or is red (pitta) or pale (vata or kapha), this would indicate some imbalance of physiology. There is value in scraping the tongue of this ama as taste and digestion are improved and the source to problems in the mouth is directly removed. Scraping however does not treat the source of the imbalance. The oils can prevent the growth of bacteria, fungi, and virus. They also serve to lubricate the skin, thus promoting the timely elimination of wastes and toxins ama.³⁶

METALS AND MINERALS

The Atharvaveda (19.26.1) and Yajurveda (34.51) say that gold may be used as medicine when calcified in fire. The ashes of gold are very much useful and can be administered in various diseases as medicine. This system may be applied in other metals for the medical purpose. Metals and minerals may be used in various forms

Eating out of silver is equally efficacious in promoting hepatic functions. A service of zinc improves the intelligence and appetite. Food served in brass utensils promotes wind and heat, but cures phlegmatic disorders and expel worms. The use of steel or glass vessels cures chlorosis, jaundice and intumescences the use of certain leaves a plate acts as an antidote against poison. When at dinner, a water jug with a cup should be placed on the right hand. A copper is the best for purpose. The next best is the earthen pot. Vessels made of crystal and lapis lazuli are also pur and cooling. Gold is holy, auspicious, and a giver of contentment.³⁷

Charaka says that one should not sit to dinner facing the north. According to Manu one desiring longevity should face the east while having the meal; one desirous of fame must face to the south; of wealth, towards the west; and one desiring true knowledge should sit looking towards the north.

Scientific research shows that the brain functions differently according to orientation. The science of design in accord with Natural Law has long emphasized that buildings must face in the proper direction - east or north - to protect and enhance the well-being of the inhabitants. Researchers in physiology have taken a step forward in understanding this concept with the discovery that the brain cells consistently fire in different patterns, according to the direction the brain is facing.³⁸

Growing trees / plants like Ashwattha or pipal Ficus Religiosa (it provides oxygen 24 hours) Ajsinghi (odina pinnata), Ficus Indica (big tree) 1) Gugglu 2) Pila 3) Naladi 4) Aukshagandhi 5) Pramandni; growing Tulsi (it prevents malarial vector i.e. mosquito) and other medicinal plants.

USE OF MANI AND GEMS

The Atharvaveda mentions the Manis to be used against various diseases. These are medicines, which are tied on the body. Janghimmani is used to combat pathogenic microbes. (1) Similarly other Manis like Shankhamani are effective against blood borne microbes. (2) The Satvarmani is known for its multipurpose use - its upper part is effective against Rakshasas; its root is effective against Yatudhan whereas the mid portion eliminates Yakshama i.e. consumption. Other manis - Anjanamani (4.9.1), Astritamani (4.10.1), parnamani (3.5.1), pratisarmani (8.5.1), Darbhamani (19.28.30), Audumbarmani (19.31.1), varanamani (10.3.1), phalamani (10.6.1), etc.

Gems precious stones possess the efficacy of averting evil eyes and evil influences of the planets, as well as bad deeds and wicked intentions.

[In Atharvaveda] the protection offered by several prayers which act like Kavacha or armour against the intruding vital forces are mentioned in many places. This idea has been developed further in the tantric literature, which describe several kavacha - prayers due to the Goddess Durga, Vishnu etc.³⁹

REMEMBRING GOD / RISHIS / GURU

It has been tradition in Bhaarat to remember various God / Rishis / Guru in every walk of life. Usually, Vishnu and Dhanvantri are remembered when person become ill. Even in the rural areas when a person gets up till he sleeps he remembers all the Vedic deities / rishis.

Rising early in the morning that is about an hour before sunrise, and remember Vishnu, the preserving power of nature.⁴⁰

For longevity the names of Ashvathama, Bali, Vyasa, Hanuman, Vibhisana, Kripa, Parshurama, and Markandeya- who are long lived and supposed to be still living, through ages have passed.⁴²

Charaka states that after the purification of the body and before meals, it is proper to devote sometime to the worship of Supreme Being. The name of "Hanuman- son of Anjanee" is mentioned to avert the influence of evil eyes, and also the name of the Supreme Being, who "is the fire residing in the bodies of living creatures, where, joined with the Prana and Apana. He digest the food which they eat, which is of four kinds (Bhagvad Gita 15.14).⁴³

Prayer is offered to Agastya, Agni, and Vadavanala (the submarine fire which is supposed to devour the waters of the ocean) to the following effect: "O help me to digest the food I have eaten; let me have the happiness resulting from well digested food; and relieves me from all diseases."⁴⁴

Mangala, Surya and Ashvinikumaras are also remembered piously as the mention of their name is said to possess the power of helping the digestive organs.⁴⁵

A sound and quiet sleep is secured by muttering the names of the "Five Happy Sleepers" namely, Agasti, Madhava, Muchakanda, Kapila, and Astika.⁴⁶

ENHANCING THE IMMUNE SYSTEM

Ayurveda focuses on three plans for **acquiring or enhancing immunity**:

A. Rasayana is health promoting and rejuvenates the whole physiology, producing resistance against disease both physically and mentally. If a person has a strong mind, even serious diseases can be faced by the physiology as minor diseases.

B. Vyayama is exercise. Daily exercise of up to 50% of one's exertion capacity enhances digestion, strengthens tissue metabolism and promotes immunity.

C. Satmya is suitability. Adapting to wholesome substances and giving up unwholesome

CONCLUSION

The Vedas combine science with metaphysics and clearly mention that it is God who is the giver of knowledge of all sciences as "Sahstra sam" (R.V. 1-10-11). By going through this paper, we come to know that ongoing microbiology is half-baked. The Indigenesness / Bhartiyaness of microbiology is neglected seriously in the Bioscience. The scattered information of Microbiological knowledge has to be adjunct with modern microbiology. The (traditional) Medical Microbiology in the Vedas and allied texts can be compiled and this can be made available to persons of rural and urban areas, who can get shortest way to get the knowledge of Vedic Medical Microbiology. Instead of solely following the prescription of WHO (World Health Organization), we should strictly follow VHO (Vedic Health Ordinances), Because the coming period is too crucial as forecasted by Astrology pundits and modern scientists. Moreover, that indigenous problems can never be solved with imported ideologies, especially for a nation, which has its own enriched and highly evolved medical science - Vedic Medicine-Ayurveda. Thus, it would be right to say - **BACK TO THE TEACH-**

ING OF VIDIC RISHIS.

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