

## CONCEPT OF INFECTIOUS DISEASES AS PER AYURVEDA: A REVIEW STUDY

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### ABSTRACT

An emerging infectious disease is an infectious disease whose incidence has increased recently (in the past 20 years), and could increase in the near future. The factors contributing to emergence of new diseases are microbial adaptation and change, economic development and land use, human demographics and behaviour, international travel and commerce, technology and industry, breakdown of public health measures. All these factors can be summarized in a single term - '*Pradnyaparadha*' which is said as the root cause for any disease. Not following various rules regarding *ahara*(diet), *vihara*(activities), *achara*(conduct) told in the *samhita* for maintenance of health make an individual susceptible to be victim to

various diseases. Among the main two types of *vyadhi*(diseases), *Nija* and *Agantuja*, the later includes *Bhutabhishanga* (infectious agents) as one of its causes. This very term is used for infectious agents. In various Ayurveda treatises evidences has been mentioned about the diseases caused due to *Bhutabhishanga* along with their causes, pathogenesis, symptoms, complications, treatment and prevention. These *siddhantas* can be aptly applied for prevention as well as treatment of emerging infectious diseases.

**KEYWORDS:** Infectious diseases, *Pradnyaparadha*, *Agantuj Vyadhi*, *Bhutabhishanga*.

## INTRODUCTION

Emergence of the new infections, throughout history, continues today with unabated force; in fact, they are accelerating, because the condition of modern life ensures that the factors responsible for disease emergence are more prevalent than ever before. Emerging infectious diseases can be defined as infections that have newly appeared in a population or have existed but are rapidly increasing in incidence or geographic range.<sup>[1]</sup> Responsible factors include ecological changes, such as those due to agricultural or economic development or to anomalies in climate; human demographic changes and behaviour; travel and commerce; technology and industry; microbial adaptation and changes; and breakdown of public health measures.<sup>[2]</sup>

The antibiotics were considered to be super medicine as they had potential to curb the ever-increasing realm of communicable and infectious diseases. The last few decades though, have witnessed advent of drug resistant organisms or superbugs.<sup>[3]</sup> Therefore, if we are to be adequately prepared to respond to these emerging and re-emerging infectious threats, we need to transform not only the health care delivery system but also national public health system. All these factors demand a traditional health framework which can be integrated to control and prevent these types of infections. *Ayurveda* can be a hope to face growing challenge of the emerging infectious diseases.

In light of this, many research studies, including laboratory and clinical studies, are being carried out to validate and mark efficacy of time tested *Ayurvedic* drugs pertaining to different communicable and infectious diseases. It has been a common conception that *Ayurveda* doesn't endorse germ theory of diseases at all. This is not a complete truth as the great treatises of *Ayurveda* have touched upon the concept of *Agantuja Vyadhi*. The term *Agantuja* is implied in broad spectrum under which external trauma and organisms such as parasite, viruses, bacteria, fungi all are been incorporated. Thus, the participation of organisms in pathophysiology of some diseases is acknowledged. In the present paper, an effort has been made to compile and review these aspects from different *Ayurvedic Samhita*.

## OBJECTIVE

The idea of such a theoretical research stemmed out with this literature review, and the specific objectives of this review were to:

- Critically appraise the concepts of infectious diseases in *Ayurveda* and
- Interpret their contemporary significance.

## METHODOLOGY

The present work is primarily based on theoretical research. Standard classical treatises of Ayurveda, National and international journals, and relevant Modern Medical books were used for the study.

## LITERATURE REVIEW

### 1. *Jwara utpatti*

Akin to modern medicine the classical treatises of Ayurveda also describe the cause and origin of disease. *Nidana sthana* of *Charaka samhita* renders the pathophysiology of diseases. There, a mythological story of genesis of *jwara* (fever) has been explained.<sup>[4]</sup> Causative factor for disaster of *jwara* is said to be a microorganism which characterized of *tripada, trishira, hraswa-jangha-udara krodharupi sukshma Jiwanu*. Such microbes manifests at the time of birth and death (*Janmadau-Nidhane*) and also generates various diseases in a human being continuously does *Hetusevana – Apacharantareshu* (indulging with causative factors).<sup>[5]</sup>

The same pathogenesis occurs in many other diseases of which a common *samprapti* is given in *Apasmara Nidanadhyaya* in *Charaka Samhita* as -

“Excessive indulgence in *Abhidravana, Tarana, Dhavana, Plavan, Langhana* etc.--- causes *Deha Vikshobha --- Dosha Vaishamy --- Dosha-dushya sammurcchana* at the site of *Kha-Vaigunya ---Manifestation of Vyadhi*”

The various diseases manifested from these microbes due to different *Hetu* and *Samprapti* as above are enlisted in Table 1.

**Table 1: The various diseases manifested from *Rudrakopajanya Sukshma Jivanu* due to different *Hetusevana*.**<sup>[6,7]</sup>

Sr. No.	Hetu	Vyadhi
1	<i>Deha Vikshobha</i>	<i>Gulma</i>
2	<i>Ghrutapana(Havishprasha)</i>	<i>Prameha and Kushtha</i>
3	<i>Bhaya, Trasa, Shoka</i>	<i>Unmada</i>
4	<i>Vividha Bhuta, Ashuchi Sansparsha</i>	<i>Apasmara</i>
5	<i>Maheshwara Lalata Prabhava</i>	<i>Jwara</i>
6	<i>Sharira Santapa</i>	<i>Raktapitta</i>
7	<i>Ativyavayat punah Nakshatrarajasya</i>	<i>Rajayakshma</i>
8	<i>Godhamamsa sevana - (Guru, Ushna, Asatmya) --Agnimandya</i>	<i>Atisara</i>

## 2. Agantuj Jwara

Hetu of *agantuja jwara* are summarized under four types – 1) *Abhighata* 2) *Abhishanga* 3) *Abhichara* 4) *Abhishapa*.

*Chakrapani*, a commentator of *Charaka samhita*, in his critic said that *Bhutabhishanga* (Contact with invisible organisms) can also be included in above causes.<sup>[8]</sup> *Acharya Sushruta* also mentioned *Bhutabadha* as a *Hetu* for *Vishamajwara*.<sup>[9]</sup>

This clearly indicates inclusion of infectious pathogens in pathophysiology of *Agantu Jwara*.

While explaining *ghritapana* (consumption of Ghee) for *Jeerna jwara* in *Jwara Chikitsa Adhyaya*, *Acharya Chakrapani* commented that in *Jwara*, *Ushma* increases by *prabhava* of *Pitta prakopa* and *Sukshma Jiwanu* i.e., infectious agents.<sup>[10]</sup>

## 3. Rajyakshma

The meaning of *Yakshma* is *sukshma jeeva*. There, *chaturvidha hetu* of *Rajyakshma* have been explained as- 1) *Kshaya* 2) *Vegavarodha* 3) *Aghata* and 4) *Vishamashana*.

Amongst them, *Kshaya* has two *gati* - *Anuloma* and *Pratiloma gati*. In the *samprapti* of *Anuloma kshaya*, *sukshma jeeva sansarga* i.e., '*Yakshmana pratibadhyate*' (infection) takes place. This is an example of *Nija vyadhi* get converted into *Agantuja*.<sup>[11]</sup>

Also all the *lakshana swaroopa vyadhis* of *Trirupa/Shadrupa/Ekadasharupa Rajyakshma* resembles infectious diseases.<sup>[12]</sup>

## Causes of epidemic

*Ayurveda* describes a concept called *Janapadodhwansa* that can approximately be compared with epidemic and its several variants based on the degree and intensity of the event.

*Janapadodhwansa* = destruction of a population living in an area. People having different *prakruti*, *ahara*, *deha swarupa*, *bala*, *satmya*, *sattva*, *vaya*, *sarata* etc. but some factors like air, water, region are common to them and vitiation of these factors at the same time leads to manifestation of a common disease of common symptoms and ultimately death is termed as *Janapadodhwansa*. It occurs due to vitiation of *Vayu* (air), *Jala* (water), *Desh* (region/land), and *Kala* (season).<sup>[13]</sup> They are nothing but modes by which infectious diseases spread.

The major cause for *Janapadodhwansa* to take place is said to be '*adharma*'. Not following one's duty to the community and the nature is termed as *adharma*. *Purvakalakrit asatkarma* are the root cause of *adharma* and *Pradnyaparadha* is the main cause for all the *asatkarma* to happen.<sup>[14]</sup> *Pradnyaparadha* is not following of various *vidhis* (rituals) explained in the *shastra* to maintain health of an individual like *dincharya*, *ritucharya*, *vegavidharan* etc. due to *dhi-dhriti-smriti vibhransha*. It is then causes *tridoshaprakopa* at once. All this things are responsible for hampering immunity of an individual.

This concept can very well be compared with environmental pollution or the individual forms of pollution such as air pollution and water pollution.<sup>[15]</sup> The role of environmental pollution in causation of human disease is undisputable. Over the recent years, despite the major efforts that have been made to clean up the environment, pollution remains a major problem and poses continuing risks to health. The problems are undoubtedly greatest in the developing world, where traditional sources of pollution such as industrial emissions, poor sanitation, inadequate waste management, contaminated water supplies, and exposures to indoor air pollution from biomass fuels affect large numbers of people. Even in developed countries, however, environmental pollution persists, most especially among poorer sectors of society.<sup>[16,17]</sup> About 8–9% of the total disease burden may be attributed to pollution, but considerably more in developing countries. Unsafe water, poor sanitation, and poor hygiene are seen to be the major sources of exposure along with indoor air pollution.<sup>[18]</sup> While Ayurveda summarizes all the relevant concepts in one word as *Janapadodhwansa Rogas*, modern medicine describes several terminologies to explain the degree and intensity of such events that include outbreak, epidemic, pandemic, and endemic.

### Modes of transmission of infectious diseases

*Acharya Charaka* while explaining *Janapadodhwansa* put lights on various modes of transmission of such diseases as *Upasarga/Sansarga*.<sup>[19]</sup>

*Acharya Sushruta*, one of the proponents of Ayurveda, has also depicted different modes of communicable disease transmission in his classical treatise *Sushrut Samhita*. He says by physical contact (*Gatrasansparshat*), expired air (*Nihshwasat*), eating with others in same plate (*Saha bhojanat*), sharing a bed (*Sahashayya-asanat*), using clothes, garlands, and paste (*Vastramalyanulapanat*) infectious diseases spread from person to person.<sup>[20]</sup>

These concepts are very much relevant today. Moreover, the modern texts of communicable disease epidemiology describe similar modes of disease transmission. In addition, he has also given examples of some diseases that spread through all these modes, such as different types of skin diseases (*Kushtha*), pyrexia (*Jwara*), pulmonary tuberculosis (PTB) (*Shosha*), and conjunctivitis (*Netrabhishyanda*), etc. The texts of epidemiology also reiterate these modes of transmission of these diseases such as skin diseases, conjunctivitis, acute respiratory infections, and PTB, which are caused by direct contact and respiratory routes, respectively.<sup>[21]</sup>

Here, most of the concepts depicted by *Sushruta* such as *Gatrasansparshat*, *Saha bhojanat*, *Sahashayya-asanat*, *Nihshwasat* and *Vastramalyanulapanat*, can be compared with direct modes of communicable disease transmission. At the same time, *Vastramalyanulapanat* and *Sahashayya-asanat* can attribute to some forms of vector borne disease transmission by both the biological and the mechanical modes as well.

## DISCUSSION

*Charaka Samhita* describes in detail the concept of *sukshma jivanu sansargajanya vyadhi*. The *samprapti* can be summarized as –

Due to *Pradnyaparadha*, person indulges in *ahara-viharaj apachar* which leads to *dosha vikruti* in body. It vitiates *Kosthagni* (digestive fire) which leads to improper digestion and production of *Ama* in minute *Srotas* this is called *Srotodushti*. When the *Rasadhatu* containing *Ama* and aggravated *Doshas*, reaches the place where *Kha-Vaigunya* has taken place, it being unable to get into the minute channels, gets obstructed, stagnates/accumulates there and gives rise to various diseases caused by *sansarga* of *agantuj hetu*.

If *Agantuj vyadhi* get ignored it may turn into *Nija vyadhi*, which ultimately affects the immune system. Diminution of natural immunity makes the person susceptible to all infections. Therefore, Ayurveda advocates enhancing the immunity against the diseases. Also, it emphasis on acceptance and following of various *vidhi* explained regarding *ahara*, *vihara*, *achara* (Eg.-*Dinacharya*, *Rutucharya*, *Sadvritta* etc.) to avoid *Pradnyaparadha* and ultimately being a victim to any kind of illness.

According to *Ayurveda*, *dosha dushti* is the prime cause for manifestation of disease. The person having *dosha vikruti* in his *sharira*, by any of *apacharakrut hetusevana*, is most susceptible for getting diseased by *Bhutasansarga* (infectious agent). Those who are not



having *dosha vikruti*, if get *sansarga* by any means, may develop few *vikruti lakshana* but the *vyadhi* will not occur in them. This very scenario is being observed in many epidemics these days including COVID-19. It is also observed that almost all the pathological investigations fail to detect the disease until patient develop respective cardinal features in full phase. This limitation can be very well overcome with the knowledge of *dosha dushti lakshana* mentioned in *Ayurvedic Samhitas*. This knowledge makes us capable in early diagnosis of disease on the basis of *Vruddhi-Kshaya lakshana* of vitiated *dosha* observed in the patient and implementation of *Doshapratyanika Chikitsa*. Also knowledge about *hetusevana* would be beneficial in execution of *Hetupratyanika Chikitsa* and early control on disease. On the basis of *Purvarupa* and *Rupa* developed in the patient *Vyadhipratyanika Chikitsa* should be adopted. As explained earlier, various *lakshana* develop in *Trirupa*, *Shadrupa* and *Ekadasharupa Rajayakshma* resemble with the symptoms develop in almost all kinds of infectious diseases. Therefore, the *chikitsa siddhantas* elaborated for such *lakshana* there should be practiced for wholesome treatment of patients in such epidemics.

## CONCLUSION

It can be summarized that Ayurveda doesn't disallow the role of extrinsic factors in pathophysiology of diseases. It asserts importance of maintaining equilibrium of *Dosha* for health. Still, due diligence has been given towards other *Agantuj Hetu* (external causative factors) wherever necessary. As, *Charaka Samhita* has primary aim of disease prevention, it proposes concepts of *Vyadhikshamatva* and *Janapadodhwansa* to gain knowledge and prevent such diseases.

It is interesting to note that the concepts described centuries back are very much relevant to the contemporary era and their significance cannot be neglected. Aetiology of disease and causes of epidemic described in Ayurveda are also significant as these facts are attested by modern epidemiological theories.

## REFERENCES

1. Morse SS. Examining the origins of emerging viruses. In: Morse SS, ed. Emerging viruses. New York: Oxford University Press, 1993; 10-28.
2. Morse SS. Factors in the emergence of infectious diseases. *Emerg Infect Dis.*, 1995; 1: 7-15.
3. Deepali Jayesh Agrawal, B. D. Swami. An outline of Communicable and Infectious diseases in Charak samhita. *IAMJ*, October-2019; 7(10): 1884-1888.

4. Agnivesha, Charaka Samhita elaborated by Charaka & Drudhabala with Ayurveda-Deepika Commentary by Chakrarapanidatta, edited by Vaidya Yadavaji Trikamaji Acharya, Varanasi, Choukhambha Surbharati Prakashan, Chikitsa sthana, 3(15-23): 399.
5. Agnivesha, Charaka Samhita elaborated by Charaka & Drudhabala with Ayurveda-Deepika Commentary by Chakrarapanidatta, edited by Vaidya Yadavaji Trikamaji Acharya, Varanasi, Choukhambha Surbharati Prakashan, Chikitsa sthana chapter 3(24-25): 399.
6. Agnivesha, Charaka Samhita elaborated by Charaka & Drudhabala with Ayurveda-Deepika Commentary by Chakrarapanidatta, edited by Vaidya Yadavaji Trikamaji Acharya, Varanasi, Choukhambha Surbharati Prakashan, Nidan sthana, 8(11): 227.
7. Agnivesha, Charaka Samhita elaborated by Charaka & Drudhabala with Ayurveda-Deepika Commentary by Chakrarapanidatta, edited by Vaidya Yadavaji Trikamaji Acharya, Varanasi, Choukhambha Surbharati Prakashan, Chikitsa sthana, 19(4): 547.
8. Agnivesha, Charaka Samhita elaborated by Charaka & Drudhabala with Ayurveda-Deepika Commentary by Chakrarapanidatta, edited by Vaidya Yadavaji Trikamaji Acharya, Varanasi, Choukhambha Surbharati Prakashan, Nidan sthana, 1(30): 202.
9. Sushruta, Sushruta Samhita elaborated with Ayurved Tattva Sandipika Commentary by Ambikadattashastri, Varanasi, Choukhambha Sanskrit Sansthan, Uttaratanttra, 39(75): 182.
10. Agnivesha, Charaka Samhita elaborated by Charaka & Drudhabala with Ayurveda-Deepika Commentary by Chakrarapanidatta, edited by Vaidya Yadavaji Trikamaji Acharya, Varanasi, Choukhambha Surbharati Prakashan, Chikitsa sthana chapter 3, verse no.165: 414.
11. Agnivesha, Charaka Samhita elaborated by Charaka & Drudhabala with Ayurveda-Deepika Commentary by Chakrarapanidatta, edited by Vaidya Yadavaji Trikamaji Acharya, Varanasi, Choukhambha Surbharati Prakashan, Nidan sthana, 6, verse no.9: 221.
12. Agnivesha, Charaka Samhita elaborated by Charaka & Drudhabala with Ayurveda-Deepika Commentary by Chakrarapanidatta, edited by Vaidya Yadavaji Trikamaji Acharya, Varanasi, Choukhambha Surbharati Prakashan, Chikitsa sthana, 8: 45-47: 461.
13. Agnivesha, Charaka Samhita elaborated by Charaka & Drudhabala with Ayurveda-Deepika Commentary by Chakrarapanidatta, edited by Vaidya Yadavaji Trikamaji Acharya, Varanasi, Choukhambha Surbharati Prakashan, Vimana sthana, 3(6): 241.



14. Agnivesha, Charaka Samhita elaborated by Charaka & Drudhabala with Ayurveda-Deepika Commentary by Chakrarapanidatta, edited by Vaidya Yadavaji Trikamaji Acharya, Varanasi, Choukhambha Surbharati Prakashan, Vimana sthana, 3(20): 242.
15. Janmejaya Samal. Fundamental tenets of epidemiology in Ayurveda and their contemporary relevance. Indian Journal of Health Sciences, Jan-Apr, 2016; 9(1): 20-26.
16. American Lung Association. Urban air pollution and health inequities: A workshop report. Environmental Health Perspectives, 2001; 109(3): 357-74.
17. Sexton K, Adgate JL. Looking at environmental justice from an environmental health perspective. J Expos Anal Environ Epidemiol, 2000; 9: 3-8.
18. Briggs D. Environmental pollution and the global burden of disease. Br Med Bull, 2003; 68: 1-24.
19. Agnivesha, Charaka Samhita elaborated by Charaka & Drudhabala with Ayurveda-Deepika Commentary by Chakrarapanidatta, edited by Vaidya Yadavaji Trikamaji Acharya, Varanasi, Choukhambha Surbharati Prakashan, Vimana sthana, 3(38): 245.
20. Sushruta, Sushruta Samhita elaborated with Nibandhasangraha Commentary by Dalhanacharya, edited by Vaidya Yadavaji Trikamaji Acharya, Varanasi, Choukhambha Sanskrit Sansthan, Reprinted, 2011; Sutra sthana, 5(33-34): 289.
21. Janmejaya Samal. Fundamental tenets of epidemiology in Ayurveda and their contemporary relevance. Indian Journal of Health Sciences, Jan-Apr, 2016; 9(1): 20-26.