

Role of Ayurveda to Combat the Emerging Challenges of Communicable Diseases

Dr. Samichha Neupane¹, Dr. Bikash Raj Ghimire²

¹MD Scholar, PG Department of Samhita and Siddhanta, R.G.G.P.G.Ayurvedic College and Hospital, Paprola, Himachal Pradesh (Corresponding Author)

²Senior Consultant, National Ayurveda Research and Training Centre, Kritipur, Nepal

Abstract: Background: Communicable disease has always been a major global public health threat worldwide as it has the potential to overwhelm the capacity of communities, with serious health and socio-economic consequences. It is believed that modern medicines are must to cure communicable disease. But besides the miraculous achievement of modern medical science, humanity is passing through a horror of disease and drug phobia. Some of the drugs have adverse reactions on the body rather than beneficial effects. Also as of now, some viral diseases like COVID-19, no medicine has been found. So it will be good to take preventive measures which boost our immunity. Ayurveda – the ancient system of medicine has a great potential in preventing such disorders. Ayurveda has volumes of texts available explaining many fundamental principles for promotion of health and longevity and prevention of diseases. Many references are available in Ayurveda to combat these diseases at various levels i.e. stopping the progression, building immunity against disease using various means and treating them. Aims and objectives: To explore the concept of communicable or infectious disease and there preventive and curative measures described in ayurvedic classics. Material and methods: Classical treatises of Ayurveda along with modern standard textbooks related with communicable disease were scrutinized. Conclusion: Ancient ayurvedic acharyas had knowledge of communicable diseases that's why references with thorough description regarding their cause, mode of transmission, prevention and cure are available in Samhitas. Sadvritta along with other regimen to improve immunity power those described by acharyas contribute most in preventing the communicable disease and transmission of infections.

Keywords: Ayurveda, Communicable disease, *Aupasargikroga*, *Janapadodhwansa*, *Sadvritta*

1. Introduction

Communicable diseases remain a major public health threat worldwide as it constitutes a considerable proportion of the global burden of morbidity and mortality. Communicable diseases are the illness due to specific infectious agent or its toxic products capable of being directly or indirectly transmitted from man to man, animal to animal or from the environment (through air, dust, soil, water, food etc.) to man or animal¹. These diseases have the potential to overwhelm the capacity of community with serious health and socio-economic consequences and cause epidemics and pandemics. Nowadays people are becoming more prone to this sort of illness as the overall health status of individuals is poor because of improper diet, lack of exercise, stress, low quality of food grains, pollutions, industrialization & global warming. Communicable diseases have been a part of humans throughout our time on earth. Human encroachment to nature have either knowingly or unknowingly permitted the environment that has both brought forth the pathogen and in some situations improved the environment to enable them to flourish, though the actual pathogens are not created by us. The world is now facing with possibility of pandemics spread across the globe within a few days while the same in past took months or even years. With the recent outbreak of covid-19 31st December 2019 and its confirmed cases of over 5million (till date), also SARS in 2002 and its continuous cases from time to time, makes it clear that intensive worldwide travel of human allows dangerous infections to travel more quickly. At present theentire mankind across the globe is suffering terror ofCovid-19 outbreak. Even climate change is impacting the incidence of communicable diseases. With this containment measures for communicable disease must be a priority.

Ayurveda though an ancient medical science has thoroughly described such communicable diseases under different name and group. Ayurveda also explains their cause, mode of transmission, prevention as well as cure. Ayurveda can be a hope to face the growing challenge of communicable disease. Principle of ayurvedic treatment is not directed at the level of symptoms but at the root cause. Each disease is understood in the context of the etiological factors and these are addressed in the treatment package. In the context of communicable disease details about its *nidana*, *chikitsha* etc. including prophylactics are described. *Acharyacharaka* has described about the *janapadodhwansa*²-that which results in mass destruction of people. He has thoroughly explained its causes and management. At present time *janapadodhwansa* may be correlated to epidemics or pandemics. Also *acharya Sushrutahas* mentioned *aupsargikarogas*³ (communicable diseases) i.e. *kushtha* (Skin diseases), *jwara* (Fever) etc. & their mode of transmission.

Concept of causation of disease

The reason behind the causation of the same disease to many individuals who differ in physical constitution, food habits, suitability, strength, immunity, age etc. is well explained in Ayurvedicclassics.⁴*AcharyaCharaka* and his commentator *Chakrapani* have said that it is due to disease owing to vitiation of some factors that are common to all those who inhabit in that community. These factors lead to the simultaneous manifestation of disease having the same set of symptoms among all the inhabitants leading to widespread manifestation in the community. *AcharyaCharaka* has quoted *Janapadodhwansa* (mass destruction), & its 4 reasons *asdushitavayu* (Air), *jala* (Water), *kala*(time), *desh*⁵ (region/land). These factors air, water, land and season are

common to all the individuals in a community. Apart from this *AcharyaCharaka* has divided the etiological factors into two different categories, such as *Nityahetu* and *Anityahetu*.

Nityahetu (inevitable factors): It includes the harmful effects of sun, moon, stars and planets such as floods, cyclones, landslides, earthquakes and tsunami.

Anityahetu (evitable factors): It includes *prajnaparadha* (terrorism, accidents etc.), *Shastraprabhavaja* (wars, nuclear weapons, missiles etc.), *Abhisyangaja* (effects of pathogens, evil forces and unhygienic conditions) and *Abhishapaja* (curse). These factors not only affect the individual but the entire community, resulting in widespread disease causation known as *janapadodhwansaroga*.

Apart from this, 20 types of *krimi*⁶ (microorganisms) are also mentioned in Ayurveda. This *krimi* are divided into 3 categories- *raktaja*, *purishaj*, & *kaphaja*. It closely resembles the microorganisms i.e. bacteria in present context. Also the *bhutas* mentioned as *agantujakarana* by *acharyas* resembles virus causing diseases.

Modes of transmission

AcharyaSushruta has mentioned various modes of communicable disease transmission. He says by physical contact (*Gatrasansarpaarsat*), expired air (*Niswasat*), eating with others in the same plate (*Sahabhojanata*), sharing a bed (*sahasayyanaccapi*), using clothes, garlands, and paste (*vastamalyanulepanat*) infectious diseases spread from person to person. In addition, he has also given examples of some diseases that spread through all these modes such as different types of skin diseases (*kustha*), pyrexia (*jwara*), pulmonary tuberculosis (*sosha*), and conjunctivitis (*Netrabhisyananda*) etc⁷.

These concepts are very much relevant today. Here most of concepts, depicted by *sushruta* such as *gatrasansparsat*, *sahabhojanata*, *Sahasayyanaccapi*, *Niswasat* and *Vastamalyanulepnat* can be compared with direct modes of communicable disease transmission. At the same time, *vastamalyanulepnat* and *Sahasayyanaccapi* can attribute to some forms of vector borne disease transmission by both the biological and the mechanical modes as well. According to modern science, mode of transmission of communicable can be categorized as:

1) Direct transmission

- Direct contact: through touch (staphylococcus), sexual intercourse (Gonorrhea, HIV)
- Droplet infection (Influenza, TB)
- Contact with soil
- Inoculation into skin or mucosa (bites of animals or insects- malaria, yellow fever, flea, plaque, rabies etc.)

2) Indirect transmission

- Vehicle-borne (contaminated surface- Norwalk virus, food- Salmonella, E-coli, water- Cholera, faeco-oral-hepatitis A)
- Vector-borne
- Air borne (tuberculosis, measles)

3) Trans placental (vertical)

- Hepatitis B, AIDS, Syphilis, TORCH agent

Communicable diseases can either be contagious or infectious type. One that usually is transmitted by direct contact is contagious i.e. scabies, trachoma, STDs, leprosy etc. Those disease which spreads through many ways usually by physical, chemical and biological pathway including vector and do not require direct contact of healthy person to diseased one, are infectious.

Ayurvedic Approach in the Management of communicable disease

Ayurveda is the science of life with the preventive, promotive, curative and rehabilitative aspects of health. Its main purpose is to protect health of the healthy and alleviate disorders in diseased. This holistic approach focuses on prevention through lifestyle modification, dietary management, prophylactic interventions for improving the immunity and simple remedies based on presentations of the symptoms. This ancient health science mentions various rules and conduct of *Dincharaya*, *Ritucharya*, *Sadvritta*, following which one's physical and mental health is secured. Ayurveda emphasizes on avoidance of causative factors and enhancing the immunity against host factor. With the help of *Panchakarma* (cleansing therapy), *Aushadha*, & *Rasayana*, we can boost the immunity hence communicable diseases can be prevented. Enhancing the body's natural defence system (immunity) plays an important role in maintaining optimum health. Ayurveda deals with preventive and curative approach for the promotion of health and disease.

Shatkriyakala is the unique concept of *ayurveda* which is of utmost importance from public health intervention point of view and more especially from the perspective of disease control stratagem⁸. To get rid of communicable disease, early implementation of preventive measures is the must so that its spread can be checked. Among the 6 stages of *shatkriyakala* first two steps can be regarded as stage of susceptibility. In this stage primordial and primary prevention can be done. Ayurvedic classics describe certain intervention measures those can approximately be applied at this stage. Following of proper *dincharya*⁹ (daily health promotional activities) and *ritucharya*¹⁰ (health promotional activities during specific dietary regimen), *vyayama* (exercise) etc. helps to prevent disease & maintain health. The approach described in *shatkriyakala* for the prevention and management of clinical entities can be applied at individual and community level which bears considerable public health importance.

Acharyas have mentioned various *karmas* (procedure) like *dhupana karma* (fumigation), *rakshoghna karma* to prevent spread of epidemics. *Acharyacharaka* has also mentioned following measures for the treatment.

1) Karma panchavidham (appropriate use of panchakarma)¹¹

Ayurveda emphasizes on personalized based therapeutic procedure depending upon *doshabala*, *vyadhibala* appropriate remedy should be selected and implemented. To avoid *chayaprakopai*.e. seasonal accumulation of *dosha* and thus occurring diseases one needs to take season wise detoxification therapy. For eg. *vamana karma* in *vashantaritu* etc.

2) Rasayanamviddhivatupayoga (use of rasayana)¹²:

Proper use of *rasayana*(rejuvenators) and *vajikarana* (aphrodisiac) drugs helps in promotion of health, enhances immunity and thus ensure prevention from disease.

3) Acharrasayana and sadvrittapalan¹³:

Sadvritta comprises the words 'sad' means good and 'vritta' means behavior or regime. 'Sadvritta' is code of conduct for keeping good or balanced condition of body & mind. *Sadvritta* is not limited to mental hygiene, but it has much more wide spectrum of benefits, and among them one is prevention from communicable diseases. It explains certain rules for maintaining a healthy state of body & mind like Ethical, Social, Mental, Moral and Physical conduct. Among these rules hygiene, care of sense organs, proper food and clothing etc. helps person to avoid having communicable disease thus *sadvritta* rules prevent infection to be transmit from one person to another.

According to modern medical science infection control includes preventative measures such as hand washing, cleaning, disinfecting, sterilizing, and vaccinating. Three main measures which are adopted for prevention or control of infectious disease are:

- 1) Controlling reservoir or source of infection
- 2) Interrupting routes of transmission
- 3) Immunizing the susceptible host

There are several code of conduct i.e. *Sadvritta* mentioned by *aacharyas* which may also be applicable in the above mentioned ways and many more like them. In *charakasutrasthanaindriyopakramaniya aadhya¹⁴* *Acharya Charakasays* One should bath twice a day, clean anal area and feet, cut of hairs & shave, one should always wear clean clothes and nor put on the same cloths after bath. This can be because contagious skin diseases like scabies, pediculosis etc. develop and in unhygienic condition. Further in the same context *acharya* elaborates other *Sadvritta* for controlling source ofinfection. *Acharya* says person should not urinate on road, in crowded place and while taking food, doing such might result hookworm larvae infestation, mycosis etc. One should not let out mucous nasal excreta at the time other than cleaning of face or bath. And also person should keep far away from other persons to prevent inhalation of expired air from them. One should avoid bones, thorns, impure piercing articles, hairs, chaff, and garbage etc. One should not eat in unclean utensil, nor eat dirty meal served by the unclean opponents and also in improper place where garbage accumulated on streets, places of worship, near water sources, public places like hospitals, parks, schools etc. and in crowded surroundings, nor should have stale things. All this are the source of infection so needs to be avoided.

Apart for this *aacharya* also explains *Sadvritta* for interruption of route of transmission. One should not sleep or sit together and should not perform sexual intercourse with a woman having menses or some disease, impure, inauspicious, and other's women or in female organ of other than human being or other than female vagina as it increases the risk of genital contagious disease like HIV, syphilis, chancroid, wart etc. one shouldn't yawn, sneeze, and laugh without covering the mouth. And also person should keep

far away from other persons to prevent inhalation of expired air from them. This helps in prevent transmission of respiratory problems. Person should not scrap the earth, pluck the grass or weeds and nor should come in contact with mud or grind the mud lump. Many infectious diseases are soil borne which can enter our body through soiled hand. One should not go near snakes or animals with dangerous teeth & horns. One should not eat in unclean utensil, nor eat dirty meal served by the unclean opponents. Diseases that are animal origin or which can transfer through their saliva like rabies. One should not have garlands and unguents used by other person before. Contagious skin disease may spread through this route. One should not eat without washing hands, feet & face, with unclean mouth, having unclean attendants.

Immunization is a successful and cost-effective public health strategy that saves millions of lives each year. *Sadvritta* works more widely and effectively than immunization with respect to prevention from communicable diseases as it is cheap and easy to follow. Also *Aachara rasayana¹⁵* is an integral part of preventative medicine. It is a code of conduct, which includes the maintaining living standard based on honesty, trust, faith, love and truth. These rules and regulations help in proper functioning of mental and spiritual wellbeing of a person. Properly following these rules will benefit the person in the same way as that of consuming *rasayana*. Hence it is called *achararasayana*.

2. Conclusion

Communicable disease has been mentioned in detail in ancient health science in the context of *janapadodhwamsa* and *samkramakaroga*. Timely intervention in the early stages of *kriyakala* will prevent progression into further stages like *shanasamshraya*, *vyakta* and *bheda*. Ayurveda views each individual with a unique mind-body constitution. When once the pathology is started, it is important to identify and understand the condition properly through *ayurvedic* principles. Following the *Ritucharya*, *Dinacharya* and *Sadvritta* helps in preventing the disease. Under *sadvrittaaacharya* have mentioned all those measures to Control source of infection, interrupt routes of transmission and immunize the host so that communicable disease can be prevented. *Nidanaparivarjana*, *Shodhana*, *Shamana* and *Rasayana* measures helps in combating the disease. So, with appropriate use of Ayurvedic preventive measures such as *Dinacharya*, *Ritucharya*, *AaharVidhi* & respective therapeutic measures for diseases such as *Shamanachikitsa* or *Shodhana* i.e. *Panchakarmachikitsa*, communicable disease can be prevented.

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