



Review Article

ISSN: 2454-5023
J. Ayu. Herb. Med.
2020; 6(3): 185-188
© 2020, All rights reserved
www.ayurvedjournal.com
Received: 28-05-2020
Accepted: 27-08-2020

Ayurveda Approach to Combat Epidemic Diseases

Amin Hetalben¹, Akhilesh Shukla²

- 1 Research Officer, Regional Ayurveda Research Institute for Skin Disorders, Ahmedabad, CCRAS, Ministry of AYUSH, India
- 2 Assistant Professor, Dept. of Ayurveda Samhita & Siddhanta, Govt. Ayurveda College, Near Gandhi Chowk, Dist. Bilaspur, Chhattisgarh, India

ABSTRACT

The morbidity and mortality worldwide caused by viral diseases is a major threat for public health. The principle of spirituality is not well utilized in the present medical practice. Ayurveda system has longest clinical experience and rich cultural heritage among all other systems of medicine. Ayurveda has its unique description of epidemic diseases which is explained under the topic Janapadodwansa. Air (~Vayu), Water (~Jala), Region (~Bhumi/soil) and Time (~Kala) when vitiated they become more and more difficult to manage one by one. The root causes of Epidemic diseases are *Adharma* (~Unethical practices) and *Pragyaparadha* (intellectual blasphemy). *Sadvritta* (ethical code of conduct), *Rasayana* (rejuvenation) etc with respect to *Janapada* (Community) should be adopted for the control and prevention of the epidemics. These principles of prevention and management are more relevant now than before. The present article gives in-depth insight in to the understanding of epidemics from the view of Ayurveda.

Keywords: Ayurveda, Disease, Epidemic, Janapada.

INTRODUCTION

We have forgotten our vital connection with the nature with the advancement which is essential for our survival in this planet. Human contact with the environment has profound impact on public health. Changes in ecosystems may have hazardous consequences to human health.^[1] Epidemics are reflection of our relationships with the environment and it is estimated that one quarter of the global burden of disease can be attributed to the environmental changes that contribute to air, water, soil pollution along with land use change.^{[2],[3]}

Ayurveda has described the epidemiology based on physical and spiritual science. A single epidemic disease simultaneously inflicts the persons having dissimilar constitution, food habits, bodily strength, suitability, mind and age.^[4] The factors which are common to all people can only be the basis of such calamities and they are identified as Air (~Vayu), Water (~Jala), Region (~Bhumi/soil) and Time (~Kala).^[4] They are more potent in their increasing order and becoming more and more difficult to manage. When their qualities are opposite to natural, they become destructive for human life. The reasons for vitiation of these four factors are unrighteous action of the human being by working against their own wisdom which further agitates the harmony of the society and the nature.^[5]

Vitiation of Air

Airborne diseases refer to human diseases that are sourced by organisms that can be transmitted by the air. Health hazards due to polluted air, air borne diseases, cyclone, windstorm etc. all are because of vitiated air. Air pollution is a major concern which has a hazardous toxicological effect on human health and the environment in this new civilized world.^[6] One third of deaths from stroke, lung cancer and heart diseases are caused by Air pollution worldwide.^[7] As per the data of World Health Organization shows that maximum people breathe air containing high levels of pollutants which kills an estimated seven million people worldwide every year.^[8] These diseases can be eliminated by developing green world for public health.^[9] Air pollution contributes to tremendous physical destruction, injury, loss of life, and economic damage.^[10] Physical injuries can be taken care to some extent but the psychological impacts of such calamities may continue for longer. Accidental leakage or release of the lethal gases by the factories which was witnessed in the central part of India in the Bhopal city also due to vitiated air, such incidences are not completely stopped and it is still continuing but the magnitude is not same.^[11]

*Corresponding author:

Dr. Amin Hetalben

Research Officer, Regional
Ayurveda Research Institute for
Skin Disorders, Ahmedabad,
CCRAS, Ministry of AYUSH,
India

Email: dr.hetal1985@gmail.com

Vitiated Water:

Water is essential for human survival and the major civilizations flourished around the bank the rivers. Most of the mega cities in the world are near the water sources such as, sea, river etc. Water is essential for hydration and important in food preparation, cooking, sanitation and hygiene, and a wide range of other uses. [12] Globally, around 5 million people yearly deceased due to water related diseases. [13] It is reported that in developing countries, water and sanitation are responsible for high health hazards. [14] Safe water for drinking and cooking is not available to a large population and WHO reports revealed that nearly 25% of the global population is consuming fecally-contaminated water. [15] Unsafe water, inadequate sanitation, and poor hygiene are responsible for approximately 90% of diarrheal deaths worldwide. [16] The causes for Waterborne illnesses may be because of ingestion, contact, or inhalation of pathogens (bacteria, viruses, or parasites) or chemicals in water. [17]

Water get polluted due to naturally occurring chemicals and minerals (e.g., arsenic, radon, uranium), local land-use practices e.g., fertilizers, nitrates, pesticides, concentrated animal feeding operations; manufacturing processes, sewer overflow, and malfunctioning wastewater treatment systems (e.g., septic systems). [18] Water borne diseases spread through water contaminated with human or animal faeces (including food and utensils, which have been washed with the contaminated water and dirty hands). Inadequate water has many other implications such as lack of water can cause pressure on agricultural productivity, crop failure, malnutrition, starvation, population displacement, and resource conflict. [19]

Vitiation of Land

The quality of land has direct relation with the water and air of that area. Soil has a profound effect on the health and well-being of humans. [20] Land contamination can result from a variety of intended, accidental, or naturally occurring activities and events such as manufacturing, mineral extraction, abandonment of mines, national defence activities, waste disposal, accidental spills, illegal dumping, leaking underground storage tanks, hurricanes, floods, pesticide use, and fertilizer application. [21] Soil borne pathogens can cause severe diseases in many crops which has a strong influence on their survival and capacity to cause disease. [22] The integrated soil borne disease management strategies may not eradicate all the pathogenic organisms from the soil, it entails nonstop exploration and research for sustainable crop production which will secure a sustainable future for an ever-growing population. [23]

Vitiation of Time

As Earth revolves around the Sun at axis remains 23.5° in the same direction. Seasons caused by the direction of Earth's tilt with respect to the Sun. Climate Changes can be identified with warming temperatures, changes in precipitation, and increases in the frequency or intensity of some extreme weather events, and rising sea levels which further threaten our health by affecting the food we eat, the water we drink, the air we breathe, and the weather we experience. [24] Seasonal infections in the human range from childhood diseases, such as measles, diphtheria and chickenpox, to faecal-oral infections, such as cholera and rotavirus, vector-borne diseases including malaria and even sexually transmitted gonorrhoea. [25] Despite early interest in the causes of

seasonal variation in infectious disease they remain poorly understood more than a century later. [26] The changes in season change the vegetation of that area, the rhythm of the crops may also change or affect their properties which may harmful for health. The time factor is beyond the human control so only it is explained as the most potent cause of Janapadodhwansa. This can also affect the other three factors viz. air, water and region.

Spiritual basis of understanding Epidemics:

The fundamental aspect of epidemics takes us to the view that it is our own action which is reflected in the form of epidemics. We see ourselves in isolation with the nature, but our existence is possible only in co-existence with the nature. *Adharma* (~Unethical Practices) and *Pragyaparadha* (Intellectual blasphemy) is mentioned as the root cause of environmental hazards. The accumulated sinful actions of individual and as a community are the major cause for vitiation of these factors which lead to epidemics. Performance of sinful acts desert the people living in these places. Consequently, there will be changes in season, abnormality in the earth, water dries up, drugs lose their potency and get impaired. Further, there is impairment of the country because of the impairment of food and drinks.

Preventive measures and management of Epidemics:

It is important to end the progression of disease at earliest stage. [27] Susruta has mentioned that the diseases such as Kustha (Skin disease), Jwara (Pyrexia or fever), Shosha (Kock's or tuberculosis) etc are contagious and spreads due to direct contact or by use of contaminated objects. [28] Prasnaga (all forms contacts), Gatra Sansparsha (direct contacts), eating together, sleeping together (including sexual contact), sharing and using of others cloths, ornaments, ointments, etc leads to above diseases and in this manner the disease spread from person to person. This describes Aupsargic disease i.e. Contagious disease or spread of disease through contacts.

Charaka mentioned three-fold management for the infectious disease as three different modalities in management of Krimi (micro & macro organisms tend to produce disease) viz. 1) Apakarshana, 2) Prakriti Vighata and 3) NidaanaParivarjana. [29] Bio-purification therapies i.e. Panchakarma is supportive to eliminate the morbid Doshas and Rasayana (Rejuvenation) should be adopted to enhance potency. In general, luke warm water is directed while undergoing therapies and regularly in routine. The technique of combating epidemics should include - measures of stopping development of disease, immunity, using appropriate therapies and herbs for treating affected persons, following wholesome regimen and spiritual ethics in life such as Sadvrita, Achara Rasyayana, averting of *Pragyaparadha* etc. Various medical systems are now supporting and hoping from Ayurveda to enhance the immunity of the population because human body can fight against a disease only when its immunity is strong. [30] Increase in temperature of earth's atmosphere usually attributed to greenhouse effect caused by increased levels of carbon dioxide, CFCs, and other pollutants. [31] One side, the greenhouse effect is increasing the temperature of earth and human activities are also contributing in this by deforestation, excess fuel consumptions, through the factories, machineries etc. This unplanned and unethical way of human behaviour is inviting the problems for our survival.

Panchakarma, Rasayana therapies, Sadvritta, Dinacharya (daily code and conduct), Rutucharya (Seasonal code and conducts) is advised in the effective management of communicable diseases. The herbs used for treatment of epidemic diseases should be collected prior to the onset on diseases in that particular area.^[32] If required, Shodhana (bio-purification) can be planned in the persons in the risk areas. Overall, improvement in the immunity and thus making the risk of infection low is important to prevent and cure various epidemic diseases.^[33]

CONCLUSION

Now it is concluded that, Air, Water, Place and season are unavoidable in their progressive order. Even polluted water can be avoided with a certain amount of care. But, one cannot keep stay away from the land or place where he lives by getting away from area to another part of the country in order to avoid the polluted land. But then one cannot protect himself affected of polluted seasons. The seasons are the most indispensable ones of the four factors. As per *Loka purusha siddhantha*, problems such as Pollution, Endemics & Global Warming are detrimental and create hazard to *Purusha*. One can combat these condition by following Sadvritta, *Rasayana etc* with respect to *Janapad*.

Conflict of interest: None

REFERENCES

- Mastel M, Bussalleu A, Paz-Soldán VA, Salmón-Mulanovich G, Valdés-Velásquez A, Hartinger SM. Critical linkages between land use change and human health in the Amazon region: A scoping review. *PLoS one*. 2018;13(6).
- Smith KR, Corvalán CF, Kjellstrom T. How much global ill health is attributable to environmental factors?. *Epidemiology-Baltimore*. 1999 Sep 1;10(5):573-84.
- Bauch SC, Birkenbach AM, Pattanayak SK, Sills EO. Public health impacts of ecosystem change in the Brazilian Amazon. *Proceedings of the National Academy of Sciences*. 2015 Jun 16;112(24):7414-9.
- Acharya YT, editor. *Charaka Samhita of Agnivesha, Vimana Sthana*. Ch. 3, Ver. 09-11. Reprint Edition. Varanasi: Chaukhamba Orientalia; 2007. p. 241.
- Acharya YT, editor. *Charaka Samhita of Agnivesha, Vimana Sthana*. Ch. 3, Ver. 19-20. Reprint Edition. Varanasi: Chaukhamba Orientalia; 2007. p. 246.
- Ghorani-Azam A, Riahi-Zanjani B, Balali-Mood M. Effects of air pollution on human health and practical measures for prevention in Iran. *Journal of research in medical sciences: the official journal of Isfahan University of Medical Sciences*. 2016;21.
- World Health Organization. How air pollution is destroying our health. Geneva, World Health Organization. 2018. (Accessed on 07 May 2020).
- Attademo L, Bernardini F. Air Pollution as Risk Factor for Mental Disorders: In Search for a Possible Link with Alzheimer's Disease and Schizophrenia. *Journal of Alzheimer's Disease*. (Preprint):1-7. (Accessed on 07 May 2020)
- Green BJ, Tovey ER, Sercombe JK, Blachere FM, Beezhold DH, Schmechel D. Airborne fungal fragments and allergenicity. *Medical Mycology*. 2006 Sep 1;44(Supplement_1):S245-55.
- Marchigiani R, Gordy S, Cipolla J, Adams RC, Evans DC, Stehly C, Galwankar S, Russell S, Marco AP, Kman N, Bhoi S. Wind disasters: A comprehensive review of current management strategies. *International journal of critical illness and injury science*. 2013 Apr;3(2):130.
- Anonymous. Vedic Way to Beat Pollution'. *English Daily-"The Hindu"*. 4th May 1985. News item under the heading 'Vedic Way to Beat Pollution'.
- Sengupta P. Potential health impacts of hard water. *International journal of preventive medicine*. 2013 Aug;4(8):866.
- Malik A, Yasar A, Tabinda AB, Abubakar M. Water-borne diseases, cost of illness and willingness to pay for diseases interventions in rural communities of developing countries. *Iranian journal of public health*. 2012;41(6):39..
- Halvorson SJ, Williams AL, Ba S, Dunkel FV. Water quality and waterborne disease in the Niger River Inland Delta, Mali: a study of local knowledge and response. *Health & place*. 2011 Mar 1;17(2):449-57.
- WHO/UNICEF Joint Water Supply, Sanitation Monitoring Programme. Progress on drinking water and sanitation: 2014 update. World Health Organization; 2014.
- Murray C, Newby H. Data resource profile: United Nations children's fund (UNICEF). *International journal of epidemiology*. 2012 Dec 1;41(6):1595-601.
- Waterborne Diseases, Available at, <https://www.tn.gov/health/cedep/waterborne-illness-prevention.html> (Accessed on 08 May 2020)
- United States. Public Health Service. Office of the Surgeon General, United States. Office of Disease Prevention, Health Promotion, Centers for Disease Control, Prevention (US). The Surgeon General's call to action to prevent and decrease overweight and obesity. US Government Printing Office; 2001.
- Waterborne Diseases, Available at https://www.niehs.nih.gov/research/programs/geh/climatechange/health_impacts/waterborne_diseases/index.cfm (Accessed on 08 May 2020).
- Steffan JJ, Brevik EC, Burgess LC, Cerdà A. The effect of soil on human health: an overview. *European journal of soil science*. 2018 Jan;69(1):159-71.
- LINO JD, AQUINO AR. A study of contaminated land in São Paulo city, Brazil and mainly adopted remediation process face a deficient database. *International Journal of Environmental Pollution and Remediation*. 2019 Nov 28. (Accessed on 8 May 2020)].
- Katan J. Diseases caused by soilborne pathogens: Biology, management and challenges. *Journal of Plant Pathology*. 2017 May 18;99(2):305-15.
- Panth M, Hassler SC, Baysal-Gurel F. Methods for Management of Soilborne Diseases in Crop Production. *Agriculture*. 2020 Jan;10(1):16.
- Mateeva Z. Climate Change: Human Health-Related Risks and Vulnerability—Some Global and Local (Bulgarian) Pictures. *InSmart Geography 2020* (pp. 75-89). Springer, Cham. (Accessed on 08 May 2020)
- Yorke JA, Hethcote WH. *Gonorrhoea Transmission Dynamics and Control*, vol. 56 *Biomathematics*.
- Ransome, A. 1880 On epidemic cycles. *Proc. Manchester Lit. Phil. Soc*. 19, 75–96.
- Acharya YT. *Sushruta Samhita of Sushruta; Sutrasthana*. Reprint ed. Ch.21. Ver.37. Varanasi: Chaukhamba Sanskrita Sansthana;2010.p559.
- Acharya YT. *Charaka Samhita of Agnivesa; Chikitsasthana*. Ch.6. Ver.9-11. Varanasi: Chaukhamba Orientalia;2007.p. 246.
- Acharya YT. *Charaka Samhita of Agnivesa; Vimanasthana*. Ch.7. Ver.28. Varanasi: Chaukhamba Orientalia;2007.p. 248.
- Garg AK, Singh A, Vishnoi H, Meena GC, Singh C, Adlakha M. Swine Flu-The Changing Scenario and Preparedness with Formulation of "Win Flu Air Freshener Gel. *International Journal of Ayurveda and Pharma Research*. 2017;5(11):14-20.
- Cole E, Cuthbertson E, Daniels A, Wright E. The Feasibility of an Arctic Based Wind-Powered Pump to Thicken the Ice Sheet in an Effort to

Reduce the Impact of Global Warming. Bangor University, Bangor. 2017.

32. JadavjiTrikamji Acharya, editor (1st edition) Charaka Samhita by Agnivesa revised by Charaka and Dridabala, commentary of Chakrapanidutta. Vimanasthana; Janapadodhwamsavimanam: Chapter 3, Verse 13-14.
33. Goyal M. Threats and challenges of emerging viral diseases and scope of Ayurveda in its prevention. AYU 2019;40:67-8.

HOW TO CITE THIS ARTICLE

Hetalben A, Shukla A. Ayurveda Approach to Combat Epidemic Diseases. J Ayu Herb Med 2020;6(3):185-188.