


AYURVEDIC MANAGEMENT OF INFECTIOUS DISEASES IN CHILDREN W.S.R. TO PANDEMIC CONDITIONS; A REVIEW BASED ON CURRENT SCENARIO
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ABSTRACT

In Ayurveda, *Balchikitsa* has been placed in the foremost priority among the *Ashtangas* because it determines the physical, mental and behavioral well being across the lifespan. Children are very much prone to the infectious diseases as there are increased chances of transmission through schools. Socio-economic factors also play important role in transmission. Although children are considered as a high risk factor at the time of Pandemic but the situation gets worse when they have to deal with the socio-economic crisis also. This ultimately affects the physical, mental, behavioral health of the child. Ayurveda emphasizes on improving the immunity especially during *Janapadodhwamsa* (pandemic). Thus *Vyadhiksamatva* (immunity) plays important role in prevention as well as in recovery also. According to UNICEF, in this recent Covid-19 pandemic, approximately, 117 millions of children will be affected in various ways.

KEYWORDS: *Balchikitsa, Janapadodhwamsa, Immunity, Infectious diseases.*
INTRODUCTION

Ayurvedic scholars have mentioned the role of *Desha*, *Vayu*, *Udak* and *Kala* in the spread of *Janapadodhwamsa*. According to them disease can be infectious and non-infectious. Ayurveda believes in the concept of the *Agantuja Vyadhi* and *Nija vyadhi*. *Agantuja vyadhi* occurs due to organisms such as parasite, bacteria, viruses etc. and *Nija vyadhi* occurs due

to vitiation of *Vata*, *Kapha* and *Pitta*. Different types of *Krimi* which causes infectious diseases are mentioned in **Figure 1**. Various scholars have mentioned different modes of transmission of infectious diseases such as through *Nihsvasat* (expired air), *Sahabhojnata* (sharing food), *Gatrasansparsat* (physical contact) and *Vastamalyanulepanat* (sharing clothes & material) etc.

<i>Bahya Krimi</i>	<i>Raktaja</i>	<i>Shleshmaja</i>	<i>Purishaja</i>
<ul style="list-style-type: none"> • <i>Yuka</i> • <i>Piplika</i> 	<ul style="list-style-type: none"> • <i>Keshada</i> • <i>Lomada</i> • <i>Saurasa</i> • <i>Jantumatra etc.</i> 	<ul style="list-style-type: none"> • <i>Hridayada</i> • <i>Churu</i> • <i>Antrada</i> • <i>Mahaguda</i> • <i>Udaraveshta etc.</i> 	<ul style="list-style-type: none"> • <i>Sashulaka</i> • <i>Kakeruka</i> • <i>Leliha</i> • <i>Makeruka etc.</i>

Figure 1- Various types of Krimi (micro-organisms).

In today's world, infectious diseases are increasing at a very rapid pace due to increase in transportation, global interconnections, travelling across the world. All this leads to easy spread of infectious diseases to a larger

area, greater distances; easy passage from humans to humans or from animals to humans. If we look at history, there were many pandemic which occurred like spanish flu, small pox and plague etc. Recently, world has

encountered pandemics such as Swine-flu, Ebola virus and now we are facing the threat of Covid-19. In *Ayurveda*, there is a concept of *Bhutabhisanga*, which states that micro-organisms produce toxins in body which results in *Vishama Jwara* and various symptoms of a disease.

According to WHO, worldwide the main reason behind the death of children below 5 years of age is

Table 1: Child mortality due to some infectious diseases.

Disease	Death of children (below 5 years of age)
Acute lower respiratory infections	141,969
Diarrhoea	91,270
Malaria	1,341
Measles	19,982
Other communicable diseases	69,606

Prevalence and Incidence of Infectious Diseases

Emergence of infectious diseases largely depends upon social, economic and environmental factors. All this results in the spread of infectious agent and results in *Janapadodhwamsa*. Infants and children are mostly affected by the infectious diseases and the ratio of mortality and morbidity is higher in this case. About three million children die from diarrhea and malaria alone across the world.

New microbes are emerging as an evolutionary phenomenon with some genetic and adaptive changes. Worldwide, more than one million deaths occur due to respiratory infections, in which most of the cases are of lower respiratory tract infection. Most of the cases are from the developing countries. Approximately 1.5 million of deaths occur due to diarrheal diseases which are result of unhygienic environment, lack of proper sanitation and drinking water. More than fifty percent of populations of south-asian countries are considered to be living in malaria prone areas.

Covid-19 and its impact

According to the State-Level Report released by American academy of Pediatrics and children's hospital in USA, out of total cases reported only 9.5% represented the Covid-19 positive children. Children were 0.6%-4.1% of total reported hospitalization. Fortunately, no case of child death is reported yet. Children with genetic problems, chronic diseases, obesity are at higher risk of serious illness. According to UNICEF, nearly 117 million of the children will be affected by this pandemic directly or indirectly.

Symptoms of covid-19 in children

The most common symptoms reported till date are fever, cough, vomiting and difficulty in breathing. Along with this, other symptoms are also reported such as, chills, muscle pain, headache, loss of taste, smell and diarrhea.

Ayurveda has explained the *Samprapti* of a *Roga* in certain steps. *Sanchaya* is the stage of accumulation

communicable diseases, which could have otherwise be prevented by taking certain precautionary measures. Despite of improvement in the health facilities across the world, diseases like Malaria, Diarrhoea and Pneumonia remain the main cause behind the death of most of the children. In the **Table 1**, data is provided about the child mortality in India (below 5 years of age) due to some infectious diseases.

where the *Doshas* get vitiated at a particular site. Then in the next stage of *Prakopa* (provocation), vitiated *Doshas* leave the site of origin and move to other places. In the stage of *Prasara* (propagation), *Vyadhi* starts producing symptoms like cough, fever, nasal flow. Afterwards, the vitiated *Doshas* move to the target organ in the *Sthanasamshraya* (localization) stage. In Covid-19, target organ for the virus is lung. In the stage of *Vyakta* (manifestation) target organ start producing respiratory symptoms. Thus in this stage lungs will be affected depending on the severity of infection and response of the host body. This results in the development of sign and symptoms clearly. In the last stage of *Bheda* (complication), if the treatment is not given then it can lead to production of various complications. In case of Covid-19, in severe cases, death can also occur.

Treatment in Ayurveda

Due to the rapid spread of infectious diseases, increasing frequent emergence of epidemics, pandemics we need to focus on improving the immunity, *Ahara*, *Vihara* and maintenance of social distancing. In *Ayurveda*, prevention is considered as the important tool for the proper health. *Ayurvedic* medicines, like *Rasayanas* helps in increasing the body's resistance towards infections. They act as immunomodulators and helps in activating immune system. They have properties like *Pachana*, *Krimigna*, *Kapha nissaraka*, *Laghui* and *Deepana*. In balancing the vitiated *Kapha Doshas*, various properties like *Pachana*, *Laghui*, *Deepana* play important role by treating *Agnivaidyuna* (deranged digestion). In children up-to 10-12 years of age, it is preferred that drugs are administered in the form of *Gritha Kalpana*, as most of the diseases of children are of *Vata* and *Pitta* origin.

According to *Ayurveda*, *Nidana Parivarjana* is considered as the most efficient method to manage the various diseases. Stopping the chances of invasion of pathogenic microbes into the body, reduces the chances of getting infection. If the *Bala* (immunity) is strong, various physical, mental, emotional changes doesn't not affect

the child easily and thus *Ayurveda* emphasizes on improving the immunity. When there arises the situation of spread of infectious diseases, *Bala* plays a significant role in prevention. Ministry of AYUSH has released certain guidelines for the treatment of Covid-19 in the children along with the doses of various *Rasayanas*. Some preventive measures are also depicted in **Figure 2**.



Figure 2: Preventive measures for Covid-19.

Indukanta Ghritam-It is given in two divided doses of approximately 5 ml with warm water. It is prepared by mixture of cows *Ghee*, milk and various herbs. It is used to treat dry cough, allergic conditions, fever and abdominal pain. It is a potent medicine for various infectious diseases like malaria, tuberculosis and respiratory tract infections etc. It also helps in improving the appetite and digestion thus improves the health by calming the vitiated *Vata*.

Kalyanaka Ghrita- It is given in 5-10 ml of quantity, in two divided doses with warm milk. It helps in balancing the vitiated *Vata* and *Pitta Dosha*. It is used to treat fever, various inflammatory conditions & cough etc.

Aravindasavam- It is given 5-15 ml in two divided doses with warm water after eating food. It is potent medicine used a digestive tonic for infants and children. It helps in improving appetite, physical strength. It balances *Vata*, *Pitta* and *Kapha Dosha*. It is used to treat cough, bronchitis, anorexia and indigestion in children.

Balachaturbhadra Churna – It is given in 1-2 gm dose with honey, two times a day. It is an formulation used to treat fever, vomiting, diarrhea, cough in babies and children. It also provides relief in common cold, breathing trouble, wheezing and abdominal pain.

CONCLUSION

Infectious diseases usually have a microbe as a etiological factor. After entering the body, they lodge into tissues, grow there and then produce *Ama* (toxins) which results in production of disease. Thus when body tries to prevent the occurrence of disease, immunity comes into play. In *Ayurveda*, herbs and their oils provide the antimicrobial actions. Due to the side-effects of various modern medicines, *Ayurvedic* medicines

emerge as a good option for the treatment in children. As Covid-19 is a new virus, there are many researches still going and the data obtained is very limited. Thus it is necessary for us to follow the guidelines released by the government. *Ayurveda* has mentioned some principles for treatment in children such as *Mrudu Panchkarma*, *Hasta sweda*, *Swara Prashana* and concept of *Ahara-Vihara*, etc.

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