

# Ayurveda & Modern Considerations of Pregnancy in Pandemic Health

## Scenario: A Review

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### REVIEW ARTICLE

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DOI [10.22270/hjhs.v5i3.74](https://doi.org/10.22270/hjhs.v5i3.74)

#### ABSTRACT

*Ayurveda* has mentioned the pandemic situation under term *Janapadodhwamsa* which spread through *Vayu, Jala, Desha* and *Kala*. Microbes undergo evolution with time and novel virus is a evolved virus of SARS group. Outbreak of Covid-19 is severely affecting the world. It is an infectious disease caused by severe acute respiratory syndrome corona virus-2. It has mainly respiratory and systemic manifestations. People having diabetes, chronic diseases, pregnant women are more prone to this infection; as they are more susceptible towards pathogens and development of severe conditions like pneumonia. Due to the physiological changes during pregnancy, pregnant women are most vulnerable group in this pandemic situation because infection during pregnancy can result in adverse outcomes. Many researches are still in continuation because we are not sure of many evidences till now. *Ayurveda* in this regards suggested many preventive protocols which can prevent prevalence of disease up to some extent.

**Keywords:** Ayurveda, Covid-19, Pandemic, Pregnancy

## 1. Introduction

The current health scenario of whole world facing crises of pandemic outbreak caused by novel virus. It is a RNA virus which has incubation period of 2-14 days. For investigation nasal swab and sputum sample are collected. Diagnosis can be done through RT-PCR and computed tomography. In diagnosis decreased WBCs count, mild thrombocytopenia, increased liver enzymes and creatine phosphokinase can be found. Virus first multiplies in throat and afterwards in the lungs. It is highly contagious and infectious disease which causes illness such as common cold to severe pneumonia and sometimes death also. The infectious diseases spread from one person to another very quickly and their ways of transmission are depicted in Figure 1. *Samsargaj roga* (communicable disease) affects large number of population despite of that every person has different *Ahara, Bala, Deha* and *Prakruti*. Covid-19 is *Sannipata Jawara* having symptoms of *Jwara, Dyspnoea, Shrama shwas & Khasa*, etc.

Pregnancy has always been at higher risk in pandemics and even in seasonal

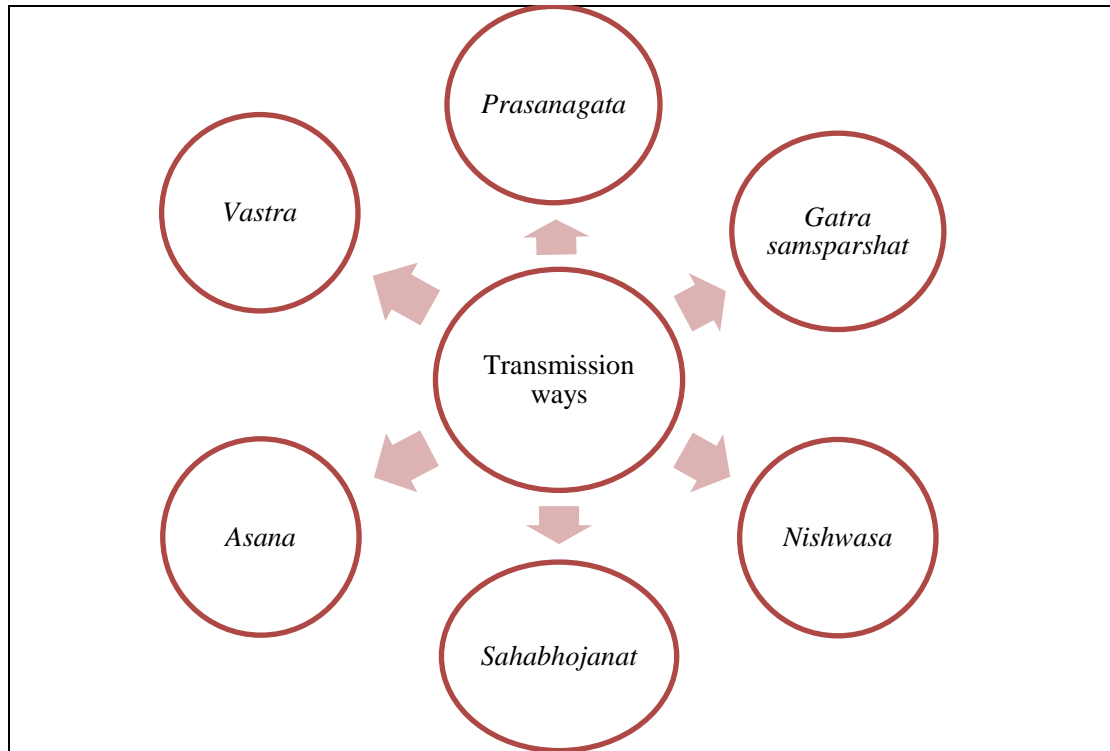
influenza. Due to the *Sansargaja* nature of Covid-19, old aged people, person suffering from diabetes, chronic diseases; pregnant ladies are considered as the high risk group. From previous pandemics like H1N1 virus 2009 and Zika virus, it is reported that both have affected the pregnant women and the unborn child resulting in increased risk of complications in many cases. (1,2)

## 2. Pregnancy as high risk factor

Pregnancy is placed in high risk group during pandemics due to certain reasons:

- ❖ During pregnancy several changes occur in body especially physiological changes which affects various organs of the body such as respiratory, cardiovascular system, immune system etc.
- ❖ Certain anatomical changes also occur like change in diameter of thoracic cavity and level of diaphragm. Some changes like increased heart rate, oxygen usage, decrease in lung capacity is also observed.
- ❖ During pregnancy body becomes more prone to infections (virus, bacteria) due

- to shift of cell mediated immunity to humoral immunity.
- ❖ There are chances of vertical transmission (from mother to foetus) which raises the concern towards the infectious diseases.
  - ❖ Foetus does not develop immunity properly thus it is most susceptible for infections.
  - ❖ In case of infection, deregulation of cytokines can hamper the neurological development of the foetus.



**Figure 1.** Ways of Transmission of Infectious Diseases

In the initial days of pandemic, it was assumed that disease does not show vertical transmission but soon this proved wrong when a case of vertical transmission was reported in Pune. It was the first case of vertical transmission reported in India and this increased the concern about the pregnant ladies. The risks to the mother appear to increase particularly during the last trimester of pregnancy. It is reported that infected women possess symptoms of breathlessness and repeated fever.

Pregnant women are at higher risk of getting infection as they can get exposed to infection at home, during their hospital visits, during routine investigating procedures etc. Infection in pregnancy can result various abnormalities such as reduced fetal growth, still birth, premature birth etc. Pregnant lady can suffer from severe respiratory problems which can lead to miscarriages also in some cases. (3-5)

### 3. Effects of Covid-19 during pregnancy

We can see the immediate effects of pandemic infection during pregnancy and also the long term effects on both parent and child. Pregnant women are four times more susceptible for the infection than the other people. Pregnant women have higher chance of exposure to the infection because of their regular visits to the hospitals for medical facilities, diagnostic procedures etc. It is found in recent research that pregnant women if got infected then it can cause severe problems and ratio of getting hospitalized is seen more. Chances of taking support of mechanical ventilation increases in pregnant ladies. During pregnancy, tendency to form blood clot increases to protect the body from excessive bleeding during labour. This is a normal change which occurs naturally in the body as a protective measure. Infection in pregnant lady further increases the chances of forming blood clot and this can be fatal in some cases. Blood

clots formed in placenta can restrict the blood supply to the foetus. Virus can cause disruption in contact between the mother and the baby. If it persists for a longer duration then it can affect the growth and development of the foetus.

It is assumed that in some cases vertical transmission of infection is prevented by the molecules that prevent the binding of virus to the placental cells. With the help of mother's blood, one can analyze the factors responsible for protecting the foetus from infection. Antibodies formed in infected mother can pass through the placenta and provide immunity to the foetus for some duration. Some studies are still in process to investigate about the presence of antibodies in mother's milk which can help in protection of baby. Some molecules like IL-6 (interleukins) can also pass through placenta. This gets activated when mother is suffering from severe inflammatory problems. The activated immune response can cause negative impact on the baby and can affect the development of various organs (respiratory, circulatory etc). (6)

#### 4. Preventive measures

One should focus on good conduction of *Ahara* and *Vihara*. Every woman has right of safe and positive childbirth experience irrespective of the infection. During all the phases of pregnancy and after delivery they have all the rights for receiving the high quality care. Pregnant ladies are advised to go for routine checkup once in two months instead of monthly visit and should follow all the protocols of social distancing and prevention through wearing mask. If the lady is found to be positive then she must be in isolation for 14 days or until she recovers completely.

After delivery, positive patient is also allowed to hold the baby and share same room with the baby but with proper protective measures. If she want to do breast feeding then she must wash hands properly before and after touching the baby and should maintain proper hygiene. If the mother is unwell then the baby will be provided with milk through re-lactation or donor human milk. Patient should take proper sleep, should avoid travelling,

consumption of outside food and beverages etc.

Pregnant women should do gargles with hot water, salt and turmeric water. This will help in balancing the vitiated *Kapha* thus increases immunity. To clear the nasal and throat passage, one should pure drops of pure cow *Ghee* in both nostrils and then should take steam. *Laghu ahara* with green vegetables, varieties of soups, should be taken. To boost *Bala* one should drink daily the immunity boosting *Kwatha*. Along with this one should do *Yoga* and meditation to relieve stress and increase the internal energy of the body. (7,8)

#### 5. Conclusion

The pandemic outbreak currently has affected the vulnerable population of the world. Despite all the reported cases, we can say that the research is still in process and various things will be revealed after sometime. It is important for the government and health sector to create an efficient and effective environment for protection from such pandemics. Vertical transmission is reported in certain cases thus pregnant women should try their best to prevent themselves from the infection. In majority of the cases both mother and baby are safe but we have to wait for the further cases and their reports.

#### Acknowledgements

I would like to express my gratitude to Himalayan Journal of Health Sciences who gave me the opportunity to publish the article.

**Financial Disclosure statement:** The author received no specific funding for this work.

#### Conflict of Interest

The authors declare that there is no conflict of interest regarding the publication of this article.

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