

**COVID-19 IN PREGNANCY, AYURVEDIC CORRELATION AND PREVENTION
PROTOCOL: REVIEW STUDY**Vd. Swapnali B. Bari*¹, Vd. Chetna J. Kulkarni², Vd. Madhuri S. Bhalgat³¹PG Scholar, Dept. of Prasuti Tantra avum Streerog, SVNHT's Ayurved Mahavidyalaya, Shrishivajinagar, Rahuri Factory, Dist- Ahmednagar, Maharashtra, India.²Professor of Dept. of Prasuti Tantra avum Streerog, SVNHT's Ayurved Mahavidyalaya, Shrishivajinagar, Rahuri Factory, Dist- Ahmednagar, Maharashtra, India.³H.O.D. of Dept. of Prasuti Tantra avum Streerog, SVNHT's Ayurved Mahavidyalaya, Shrishivajinagar, Rahuri Factory, Dist- Ahmednagar, Maharashtra, India.***Corresponding Author: Vd. Swapnali B. Bari**

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Article Received on 08/04/2020

Article Revised on 29/04/2020

Article Accepted on 19/05/2020

ABSTRACT

The outbreak of COVID-19 infection has become a major epidemic threat all over the globe since December 2019. COVID-19 is an infectious disease caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2). It typically presents with respiratory and systematic manifestations. High risk population are elderly persons and people having DM and HTN. Similarly pregnant women are more susceptible to respiratory pathogens and to the development of severe pneumonia which makes them more prone to COVID-19 infection than the general population. It can cause adverse pregnancy outcomes. Consequences of infection with SARS-CoV-2 for pregnancy are very few with no evidence so far of severe outcomes however the possibility should be considered. Therefore pregnant women should be considered as high risk populations in strategies focusing on prevention and management of COVID-19 infection. No effective treatment or vaccine exists currently (April 2020). In Ayurveda symptoms of COVID-19 can be considered as *sannipata jwara* with dominance of *kapha dosha*. To combat the infection many researches are going on. To date we can take precautions only to prevent COVID-19. An attempt is made to focus on its precautions in pregnant women according to *swasthavritta* mentioned in Ayurveda. Some therapies and preventive protocols published by AYUSH ministry are also added.

KEYWORDS: COVID-19, coronavirus, pregnancy, *sannipata jwara*, *janapada udhwansaneey*.**INTRODUCTION**

The COVID-19 pandemic began in China and quickly spread to other countries and became a major health problem. On January 30, 2020 WHO labeled it as Public Health Emergency of International Concern (PHEIC). On February 12, 2020 WHO named the disease caused by the novel coronavirus "Coronavirus Disease 2019" (COVID-19). Pneumonia caused by COVID-19 is a highly contagious and infectious disease declared a health emergency by WHO. With the spread of coronavirus, concern has been raised about its effects on pregnant women which is a most susceptible group.

Viruses appear to be mainly spread via person to person contact. The route of transmission is primarily via respiratory droplets from the infected person into the air, which are then deposited onto nearby surfaces. Coronavirus cause illness ranging in severity from the common cold to severe respiratory illness and death. COVID-19 can cause fetal distress, miscarriage, and preterm delivery in pregnant women. Clinical symptoms

of COVID-19 in pregnant women are not different from those of non-pregnant women.^[1] To date no medications or vaccines are approved to treat or prevent COVID-19. Therefore the implementation of preventive measures is important to avoid its further spread.

Virus overview- Coronaviruses are single-stranded RNA, non-segmented, enveloped viruses. The term coronavirus derives from the Latin word corona, which means crown or halo as virus particles display a crown-like fringe typically referred to as spikes. The onset of symptoms is usually within 14 days (2-14 days) of exposure.

Diagnosis of COVID-19- It is mainly based on computed tomography (CT scan) and reverse transcription-polymerase chain reaction (RT-PCR). Using real-time reverse transcription-polymerase chain reaction (rRT-PCR), the test can be done on respiratory samples obtained by various methods, including a nasopharyngeal swab or sputum sample. Results are

available within a few hours to 2 days. The RT-PCR test performed with throat swabs is only reliable in the first week of disease. Later on the virus disappear in the throat but multiply in the lungs. So in the second-week sample should be taken from deep airways by suction catheter or sputum can be used.

Pharmaceutical care- No drug is currently approved to treat COVID-19 and presently there is no effective coronavirus drug and unethical usage of drugs should be avoided. However twice daily antiviral treatment with Lopinavir / Ritonavir (400mg/100mg) + -interferon (5 million IU in 2 ml of sterile water for injection) has shown improvements in the clinical condition in some cases. This regimen may also be used to treat pregnant women, despite Lopinavir/ Ritonavir is a pregnancy category C drug (use in pregnancy only when potential

benefits outweigh potential risks). COVID-19 causes extensive alveolar damage which in turn increases the risk of secondary bacterial infection. Inj. Ceftriaxone should be administered intravenously on confirmation of secondary bacterial infection.^[2]

Vertical transmission – Limited evidence exists on vertical transmission of COVID-19 during pregnancy, birth, and the postnatal period. Currently there was no single evidence for intrauterine vertical transmission of COVID-19 from infected pregnant mothers to their fetuses. Somehow, infected mothers may be at increased risk for more severe respiratory complications. There is no need to explain that an infected mother can transmit the COVID-19 virus through respiratory droplets during breastfeeding.^[3]

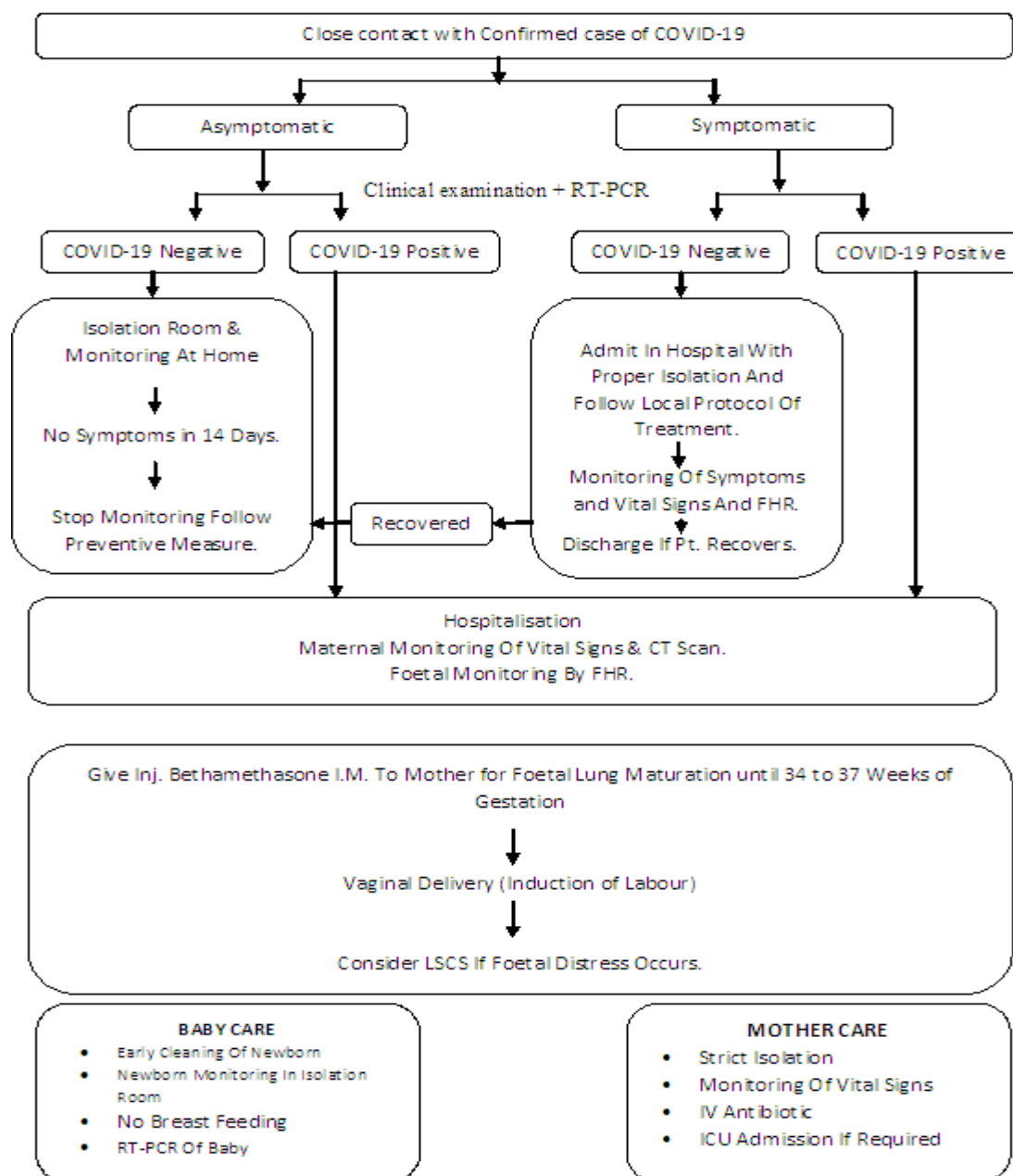


Fig. 1: Guidelines for management of pregnant woman with SARS-Cov-2 exposure.

MATERIALS AND METHODS

In this review article, we studied all articles about COVID-19 and pregnancy from December 2019 to March 2020 published in various journals as information about COVID-19 is not available in books yet and reviewed them. Ayurvedic data is collected from *Samhita*.

Ayurvedic approach- As COVID-19 is a pandemic, Ayurveda considers it as a *Janapada udhwansaney*. Means death of many people occurs at the same time though they have different *prakruti, ahara, deha, bala, satmya, satva, waya*.⁽⁴⁾ It can be grouped under the class of *aagantuja vikara* with special reference to the class of *bhutabhishangaj* (microbiological etiology).⁽⁵⁾ It may be defined as *samsargaj roga* (communicable disease) i.e. the disease which is communicable due to a history of

contact with a person who is affected. Coming to the term of this disease according to Ayurveda, Charakacharya says that don't hesitate if you can't give a proper name to the disease. There are many diseases and it is not possible to name it every time.⁽⁶⁾

Symptoms- Generally patients have fever (*jwara*), cough (*kasa*), myalgia (*angamarda*), fatigue (*tandra*), dysnoea (*shwas*), labored breathing (*shrama shwas*). Considering all these factors COVID-19 can be considered as *sannipata jwara*. There are 13 types of *sannipata jwara* as mentioned in *charak samhita*. From that we can correlate it with *kaphapradhan, pittamadhya, vatahin*⁽⁷⁾ and *kaphapradhan, vatamadhya, pittahin*⁽⁸⁾ It can be correlated with symptoms of *kaphavataj jwara*⁽⁹⁾ But as it progresses it becomes fatal i.e. *sannipata jwara*.⁽¹⁰⁾

Table 1: Differential diagnosis according to Ayurveda.

Symptoms (Allopathy)	Symptoms (Ayurveda)	<i>Kaphapradhan, pittamadhya, vatahin sannipataj jwara</i>	<i>kaphapradhan, vatamadhya, pittahin sannipata-jwara</i>	<i>Kapha-vataj jwar</i>	<i>Sama-doshaj sannipataj-jwar</i>
		Cha.chi. 3/97	Cha.chi. 3/100	Ash.hru.ni 2/25	Cha.chi 3/103-107
Fever	<i>jwara</i>	✓	✓	✓	✓
Cough	<i>kasa</i>				✓
Difficulty in breathing	<i>shwas kashtata</i>			✓	✓
Chills	<i>sheetalta</i>		✓	✓	✓
Myalgia	<i>Anga-marda</i>		✓		✓
Headachae	<i>shirshool</i>		✓	✓	✓
Sore throat	<i>Kantha shuke-rivavrut</i>				✓
Anorexia	<i>aruchi</i>	✓		✓	✓
Tiredness	<i>aalasya</i>	✓	✓		
Runny nose	<i>Prati-shyay</i>	✓		✓	
Chestdiscomfort	<i>Hrudi-vyatha</i>				✓
Fatigue	<i>tandra</i>	✓	✓	✓	✓

Prevention protocol in pregnant woman- As there is no approved medicine for COVID-19 as of now, it will be good to take preventive measures which boost immunity. Prevention is always better than cure. Pregnant women should follow this protocol as they are on the verge of high risk. Ayurvedic protocol for the prevention of COVID-19 from *samhita* to maintain proper health is as below. It is recommended by the Ministry of AYUSH.⁽¹¹⁾ Some additions were done in it by considering the health of a pregnant woman.

Ahara (Diet)

1. *Laghu ahara* (light diet), cooked vegetables, a soup made up of green gram, *phulaka, chapatti, moog*

daal krushra (kitchari) with green vegetables, less rice, homemade food

2. Hot milk with half teaspoon of *haridra* (turmeric)
3. Use warm water for drinking
4. Avoid spicy, oily food
5. Avoid dairy products and cold drinks

Vihara (Lifestyle)

1. *Nidra*- 8-9 hour sleep at night, take complete rest, avoid sleeping in day (*diwaswap varjya*)
2. *Vyayam*- Do *pranayama* regularly at morning
3. *Gandush* (gargling) - with water boiled with *haridra* and *lavana* (salt) or do oil pulling therapy i.e. take 1 tablespoon coconut oil in the mouth. Don't drink,

swish in mouth for 2-3 min. and spit it off followed by a warm water rinse.

4. *Snan*- daily bath with warm water
5. *Nasya*- apply coconut oil in both nostrils (*pratimarsh nasya*)
6. Steam inhalation- with *tulsi* (holy basil) and *haridra*
7. *Dhoopnam* (room fumigation)-with *guggul* (*comiphora mukul*), *nimba* (*azadiracta indica*), *vacha* (*acorus calamus*)
8. Others- frequent hand washing, avoid outdoor activities, avoid exposure to A.C., avoid mental stress.
9. For mental stability- listen to *Omkar mantras*, you can chant Om, read motivational stories.
10. Wonderful message from *charak samhita*- during epidemics they would play the drum mentioned in *janapada dhwanasa adhyay*. One can do *pooja* (rituals), burn a little camphor and *ghrut* lamp. It will strengthen energy.

DISCUSSION

COVID-19 is a highly contagious and infectious disease. The only key to a healthy life is to follow preventive measures. Like the general population, pregnant women, in the same way, can be exposed to the pathogenic organisms. However physiological and pathological changes in pregnancy make women more vulnerable to infection. Even a relatively minor infection can threaten the lives of both mother and fetus. COVID-19 infection that occurs during pregnancy presents a serious problem above and beyond those normally associated with the disease. So here we have discussed about COVID-19 pandemic, coronavirus, its diagnosis, pharmaceutical care. Its correlation with Ayurvedic terminology is also discussed.

CONCLUSION

The diet and lifestyle which are described thousands of years ago in the classical texts of Ayurveda is totally beneficial and one can follow it for prevention of COVID-19 in pregnancy. This article gives priority to the reduction of transmission of COVID-19 in pregnant women.

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