



## REVIEW ARTICLE

### A CRITICAL REVIEW OF COVID-19's IMPACT ON REPRODUCTIVE HEALTH IN MALES

Dr. Sahil Garg<sup>1</sup> and Dr. Sujata Rajan<sup>2</sup>

1. M.D. Scholar, Department of Kriya Sharir, Ayurvedic and Unani Tibbia College & Hospital, Karol Bagh, New Delhi, India-110005.
2. H.O.D. & Associate Professor, Department of Kriya Sharir, Ayurvedic and Unani Tibbia College & Hospital, Karol Bagh, New Delhi, India-110005.

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#### Abstract

China reported the WHO about the cases of pneumonia with an unknown cause in December 2019. The common symptoms that rocked the human tribe with their dangerous effects were dry cough, fever, diarrhea, myalgia, vomiting, and dyspnea. Many medical professionals and researchers gathered to learn more about the pathophysiology of this illness. Doctors have learned via a series of studies that COVID-19 also affects the male reproductive system. They identified ACE2 receptors as the most likely culprit for this. In Ayurveda, the clear description for COVID is not mentioned but Acharya has given a better concept for anonymous disorders viz. decision of treatment of any anonymous disease should be taken on the basis of *prakriti*, *adhishtan*, *samutthan*. *Ojakshaya*, *Rajyakshma*, *Sannipataja jwara*, and *Marak* are the disorders probably correlated with COVID-19. The prevalence of male infertility is getting increase day by day. Factors causing male infertility are stress, hormonal imbalance, STD, infection, etc. This article is in the series to evaluate any relation between COVID and male infertility.

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#### Introduction:-

When COVID was declared a pandemic disease in 2020, it was a very difficult period for everyone. Fear of getting infected, fear of loss of close one, financial loss, and sedentary lifestyle affected humans both physically and mentally. COVID is an unidentified disease in Ayurveda, the decision of treatment of any anonymous disease should be taken on the basis of *prakriti*, *adhishtan*, *samutthan* <sup>(1)</sup>. With the reference of literature, COVID can be related to *sannipatajjwara* <sup>(2)</sup>, *rajyakshama* <sup>(3)</sup>, *marak* <sup>(4)</sup> and *ojakshaya*. *Ritu* (reproductive age & ovulation period), *kshetra* (female reproductive tract), *ambu* (nutritional factors), and *beeja* (healthy sperm and ovum) are the four important factors in producing a progeny <sup>(5)</sup>. Any kind of dushti in any factor hampers the reproduction cycle, male *beeja* is one of them.

Dry cough, fever or chills, myalgia, loss of taste and smell, and headache are the common symptoms of COVID-19. It was also noted that COVID was associated with male infertility. The presence of ACE2 receptors in the testis is the major cause of infection of corona virus in the male reproductive tract, scientists approved.

**Corresponding Author: - Dr. Sahil Garg**

Address:- M.D. Scholar, Department of Kriya Sharir, Ayurvedic and Unani Tibbia College & Hospital, Karol Bagh, New Delhi, India-110005.

Male infertility is a burning problem nowadays. Data shows about 23% of the male are infertile in India. *Dharma, arth, preeti, and yash* are four *sutashraya gunas* <sup>(6)</sup>, infertility deprives humans of all these. Abnormal physical activities like excessive exercise or sedentary lifestyle, psychological factors like anxiety, fear, depression, high scrotal temperature, drug abuse, etc. are considered as causative factors of male infertility as per modern medical science. In Ayurveda, various terms like *shukra dosha, Shukra kshaya, Klaivya, and Shukravaha sroto dushti* resembles this condition.

The purpose of this review is to determine any relation between *shukradosha, Klaivya, Shukravaha sroto dushti, sannipataj jwara, rajyakshama, marak, and ojakshaya*. The relation can be established on the basis of common aetiological factors, signs, symptoms and common therapeutic management. To identify hidden meanings of Samhitas one must take the help of *tantrayuktis*. In this research, *tantrayukti* is used as a torch to enlighten the knowledge of aim. <sup>(7)</sup>

### Aim:-

To evaluate the effect of COVID- 19 on male infertility through a review of ayurvedic Samhitas.

### Material and Methods:-

All Samhitas, commentaries, various books, PubMed journals, and authenticated websites were searched.

### Literature Review:-

Common aetiological factors for *shukra kshaya, bijopgthajanya klaivya* <sup>(8)</sup>, and *oja kshaya* are *chinta* (stress), *bhaya* (fear), *shoka* (mourning). *Chinta, shoka, and bhaya* are the psychological factors that cause immunodeficiency and a person becomes prone to infections and *sansargaja* disorders. *Bhutopghata* is the common causative factor for *shukra kshaya* and *ojakshaya*. <sup>(9)</sup> The term *bhuta* refers to microorganisms such as bacteria and viruses because they are invisible to the naked eyes and *bhutopghata* means getting infected by these microorganisms. COVID-19 also can be considered as *bhutopghata*.

*Kshaya (anuloma and pratiloma)* leads to both *shosh* and *klaivya*. <sup>(10)</sup>

*Atimathuna* is a cause of *pratilom kshaya* which leads to both *shosha* and *ojakshaya* (loss of immunity) and also it is considered as *vishesha nidana* of *shukravaha sroto dushti*.

The pathophysiology of *vishmashanajanya rajyakshama* '*bhuyishtham nanyastatha sharirdhatu*' <sup>(11)</sup> indicates malformation of all the dhatus such as *shukra dhatu* malformation.

*Chintyanama cha atichintanat* is a cause of *rasavahasrotodushti*, <sup>(12)</sup> *rasadushti* leads to *anuloma kshaya* which again leads to infertility (*klaivya*). The main srotas involved in *rajiyakshama* is a *rasavahasrotas*.

Causative factors of *shukra sandushti* are *ativyavaya, ativyayam, and asatamyabhojana* these factors represent *sahasajanya, shoshajanya, and vishmashanajanya rajyakshma*. Also, these factors include *vyadhibhikarshitasyacha* (tormented from disease). <sup>(13)</sup>

*Shilajit* is the common drug indicated in both *shukradosha* and *shosha*.

### Discussion:-

Discussion helps to provide an in-depth exploration of results and to find detailed meaning. This article reviewed how COVID-19 affected people's life, especially in the context of male infertility. Before advising treatment of any particular disease *acharya* described the role of aphrodisiac drugs. The separate chapter for healthy sexual life itself signifies the role of fertility, as *acharya* says *dharma, artha, preeti, yasha* all four are established in the child. A person without a child is like a tree with just one branch, an idol of grass wearing the grab of a man and lamp in sketches rather a person with children is referred to as auspicious, praiseworthy, *dhanya, viryavan, and bahushakha* (person having many branches). The prevalence of cases of male infertility gets increases due to COVID-19. The probable cause scientist predicted for this was the presence of ACE2 receptors in testis <sup>(14)</sup>. The probable causes found during a review of *Samhitas* were stress which causes impaired hypothalamic-pituitary-gonadal axis, poor functioning of the immune system which leads to further infection, and vitiated *rasa dhatu* which causes *anuloma*

*kshaya* followed by *shukra kshaya* and intake of polluted drug and water. All or any one of them may trigger male infertility in patients of COVID. Proper treatment of COVID, rasayana treatment, aphrodisiac drugs, and counseling sessions may help to get rid of the problem of male infertility.

### Conclusion:-

Becoming a parent is the most important milestone of human life. Infertility is unable to fulfill *Sutaashraya guna* i.e. *dharma, arth, preeti, and yasha*. *Shukra kshaya, Shukra dushti, Shukravaha sroto dushti, Klaivya* can be correlated with male infertility. *Shodhana, Shaman, Rasayana, Vajikaraka aushadhi* and *nidana parivarjana* are the treatment modalities for COVID and male infertility. *Jivaniya, brumhana, harshana, and ashwasana* are common treatment modalities of *rajyakshma* and *shukra dushti*. Thus all the above literature references proved that male infertility is closely correlated with COVID-19.

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