

VOLUME 8 ISSUE 2 2022

ISSN 2454-3055



**INTERNATIONAL
JOURNAL OF
ZOOLOGICAL
INVESTIGATIONS**

***Forum for Biological and
Environmental Sciences***

Published by Saran Publications, India



International Journal of Zoological Investigations

Contents available at Journals Home Page: www.ijzi.net

Editor-in-Chief: Prof. Ajai Kumar Srivastav

Published by: Saran Publications, Gorakhpur, India



ISSN: 2454-3055

Impact of COVID-19 Coronavirus Pandemic: A Review

Karunanithi Margandan^{1*}, Santhanalakshmi K.¹, Jebastin Sonia Jas M.¹ and Agarwal Rachna²

¹Department of Chemistry, IFET College of Engineering, Villupuram, Tamil Nadu, India

²Department of Chemistry, Mody University, Rajasthan, India

*Corresponding Author

Received: 4th November, 2022; **Accepted:** 24th November, 2022; **Published online:** 4th December, 2022

<https://doi.org/10.33745/ijzi.2022.v08i02.094>

Abstract: These are the worst circumstances because of the severe respiratory tract infections that the human coronavirus Covid-19 causes in people. Human coronaviruses can spread from person to person over a period of 2 to 14 days during their incubation period, which makes contaminated hands, droplets, and surfaces of items more likely to get infected. It is a newly emerging infectious disease that spreads quickly. Common symptoms include a fever, cough, sore throat, trouble breathing, lethargy, and malaise. For the most part, the sickness is benign, but some people usually the elderly are severely affected. Acute respiratory distress syndrome, pneumonia, and multiple organ dysfunctions are possible outcomes. This new epidemic's effects are still unclear.

Keywords: Coronavirus, Global impact, Epidemic, Respiratory tract infections, Pandemic

Citation: Karunanithi Margandan, Santhanalakshmi K., Jebastin Sonia Jas M. and Agarwal Rachna: Impact of COVID-19 Coronavirus pandemic: A review. Intern. J. Zool. Invest. 8(2): 784-787, 2022.

<https://doi.org/10.33745/ijzi.2022.v08i02.094>



This is an Open Access Article licensed under a Creative Commons License: Attribution 4.0 International (CC-BY). It allows unrestricted use of articles in any medium, reproduction and distribution by providing adequate credit to the author (s) and the source of publication.

Introduction

The first instance of severe acute respiratory syndrome (SARS), which was caused by novel coronaviruses, was reported in Foshan, China, in November 2002. In mainland China, there have been more than 300 cases documented as of February 2003, with around one-third of those cases involving healthcare professionals (Zhong *et al.*, 2003). The severe acute respiratory syndrome corona virus 2 (SARS-CoV-2) or the 2019 novel coronavirus (2019-nCoV), as it is now known, is rapidly spreading throughout the world from its

genesis in Wuhan City in the Chinese province of Hubei (Wang *et al.*, 2020). About 4,026,838 cases of the coronavirus disease 2019 (COVID-19) and 276,373 fatalities have been documented as of 9th May 2020 (Coronavirus Outbreak, 2020). People who contacted the coronavirus and then travelled from Hong Kong to Vietnam, Canada, and several other nations were the main cause for spreading this virus (Guan *et al.*, 2004). India has so far documented 59,765 cases, including 1,986 deaths. An overview of this new virus is provided in this

article. Readers are recommended to continually update themselves (Coronavirus Outbreak, 2020) because understanding regarding this pathogen is rapidly evolving.

Origin and Spread of COVID-19:

Corona virus (Covid-19), one adult began presenting to local hospitals in Wuhan, the capital of Hubei province and a key transportation hub in China, in December 2019 with severe pneumonia of unknown origin. A number of early instances were frequently associated with the Huanan wholesale seafood market and the trade in live animals. On January 7th 2020, the virus was identified as a coronavirus with a homology of more than 95% to the bat coronavirus and a resemblance of more than 70% to the SARS-CoV (Xinhua, 2020). The coronavirus started to rise dramatically, but some people who have no contact with the live animal market had eventually realised that the virus was passed from person to person (Huang *et al.*, 2020). The Huanan seafood market was shut down on January 1st after China notified the World Health Organization of the epidemic on December 31st, 2019. The amount of samples of marine food from Huanan that were analysed yielded positive results (Rothe *et al.*, 2020). On January 11th, 2020, the initial case was reported. The outbreak was fueled by the massive movement of Chinese around the Chinese New Year. People who were returning from Wuhan in China were reported to have experienced the other occurrences, which are seen in various nations like Japan, Thailand, and South Korea (Zou *et al.*, 2020). As of 9/05/2020, there have been documented cases of the coronavirus illness 2019 (COVID-19) totaling 4,026,838 and 276,373 fatalities (Tanu Singhal, 2020).

Epidemiology and Pathogenesis:

Larger droplets produced by symptomatic patients' coughing and sneezing are used to disseminate the diseases, which can also affect the surface of objects. People of all ages are weak. According to studies, viral loads are higher in the nasal cavity than in the throat and there is no

difference in viral load between symptomatic and asymptomatic individuals (Zou *et al.*, 2020). Patients can remain contagious even after a clinical recovery for as long as the symptoms continue (Tanu Singhal, 2020).

SARS-CoV-2 Transmission:

According to the US Centers for Illness Control and Prevention (CDC), COVID-19 virus is a new disease, and its transmission mechanisms are currently unknown. Generally, respiratory virus infection can occur through--

- Short-range droplet spray transmission
- Close Contact (1.8 metres/6 feet)
- Contact (direct or indirect)
- Aerosol in Long-Range Transmission (Airborne Transmission)
- Respiratory Droplets

The virus may mostly transmit from person to person through--

- Respiratory droplets from an infected person's sneezes, coughs, or speaks can transmit the disease.
- Between individuals that frequently interact with one another (within about 6 feet) (Coronavirus Outbreak, 2020).

Vulnerability groups:

The COVID-19 viruses can commonly infect the populace. Although the causes of severe sickness are not yet known, the following categories of risk factors or chronic medical disorders have been noted:

- Over 65 years old
- Obesity
- Expectant mothers
- Poor immune function (people who suffer illness such as HIV infection, immunosuppressive agents, etc.).
- Long-term health issues (hypertension, liver disease, cerebrovascular disease, diabetes

mellitus, cardiovascular diseases, lung disease, cancer, heart failure, , renal disease etc.).

Elderly people and people with underlying chronic medical issues are not the only groups that are more seriously affected by COVID-19; pregnant women are also more at risk. Women's immune systems will vary slightly during pregnancy, which could increase the sensitivity to and severity of infectious infections. Pregnant women are more prone to experience undesirable outcomes than the total adult population. Pregnant women are at particularly high risk of contacting life-threatening illnesses during the current COVID-19 outbreak (Liu and Liu, 2020).

Drug treatment:

There is currently no proof from a randomised controlled trial (RCT) to suggest a particular pharmacological treatment against the COVID-19 in suspected or verified cases. Chloroquine, cyclosporin A, loperamide, chlorpromazine, and mycophenolic acid have demonstrated anti-nova coronavirus activity *in vitro*, but it is still unclear whether or not they can be used to treat the human disease. Despite the lack of strong evidence based on prior experience with MERS-COVID-19 infected individuals, the usage of plasma from patients who are recovering can be measured (Liu and Liu, 2020).

Mental health sicknesses:

Due to the COVID-19 virus, patients who are affected with disease frequently experience fear and worry. The proper mental health intervention is required for these patients. Generally, those who are affected by COVID-19 and those who are not affected by the virus should receive support for their mental health, including social support, psychological first aid, crisis counselling, psychoeducation, family outreach, psychological questioning, and techniques for reducing anxiety. During mental health interventions, clinicians should evaluate and keep track of risk and protective factors throughout all phases of an emergency or disaster (Liu and Liu, 2020).

Indian Siddha Medicine:

The antioxidant and anti-atherogenic properties of Indian Siddha medicine can be found in Siddha polyherbal decoctions such Kabasurakudineer, Nilavembukudineer, Notchikudineer, and Adathodaikudineer. In the Siddha system of medicine, the following decoctions have been used for colds, fevers, coughs, dysphonia, bronchitis, and bodily pain; however, their antioxidant and anti- atherogenic qualities have not been well explored.

They discovered that the decoction of the aforementioned herbal compositions has polyphenolic content, antioxidant characteristics, and anti-atherogenic properties. The decoctions' toxicity was also tested in PMBC. Nilavembukudineer, one of the Siddha formulations they looked into, has high antioxidant and anti-atherogenic potentials, so it might be further studied as an anti-atherogenic drug using an *in vivo* model (Perumal *et al.*, 2020).

Conclusion

This review revealed that early detection and quick isolation of patients who suspected COVID-19 should be prioritized in clinical care. Since COVID-19 is a new infectious disease, ongoing research is required to find effective cures for this acute respiratory infection.

References

- Coronavirus Outbreak (2020) <https://www.worldometers.info/coronavirus/>
- Guan Y. (2004) Molecular epidemiology of the novel coronavirus that causes severe acute respiratory syndrome. *Lancet* 363: 99-104.
- Huang C, Wang Y, Li X, Ren L, Zhao J, Hu Y, Zhang L, Fan G, Xu J, Gu X, Cheng Z, Yu T, Xia J, Wei Y, Wu W, Xie X, Yin W, Li H, Liu M, Xiao Y, Gao H, Guo L, Xie J, Wang G, Jiang R, Gao Z, Jin Q, Wang J and Cao B. (2020) Clinical features of patients infected with 2019 novel coronavirus in Wuhan, China. *Lancet* 395(10223): 497-506.
- Liu, J and Liu S. (2020) The management of coronavirus disease 2019 (COVID-19). *J Med Virol* 92(9): 1484-1490.
- Perumal R, Vellingiri V, Sridharan S and Pemaiah B.

- (2020) Evaluation of in vitro antioxidant and anti-atherogenic properties of selected Siddha polyherbal decoctions. *Int J Res Pharmaceut Sci.*11(2): 1707-1715.
- Rothe C, Schunk M, Sothmann P, Bretzel G, Froeschl G, Wallrauch C, Zimmer T, Thiel V, Janke C, Guggemos W, Seilmaier M, Drosten C, Vollmar P, Zwirgmaier K, Zange S, Wölfel R and Hoelscher M. (2020) Transmission of 2019-nCoV Infection from an Asymptomatic Contact in Germany. *N Engl J Med.* 382(10): 970-971.
- Tanu Singhal (2020) A Review of Coronavirus disease-2019 (COVID-19). *Indian J Pediatrics* 87: 281-286.
- Wang C, Horby PW, Hayden FG and Gao GF. (2020) A novel coronavirus outbreak of global health concern. *Lancet* 395(10223): 470-473.
- Xinhua. China's CDC detects a large number of new coronaviruses in the South China seafood market in Wuhan. http://www.xinhuanet.com/english/2020-01/27/c_138735677.htm.
- Zhong N S. (2003) Epidemiology and cause of severe acute respiratory syndrome (SARS) in Guangdong, People's Republic of China, in February, 2003. *Lancet* 362: 1353-1358
- Zou L, Ruan F, Huang M, Liang L, Huang H, Hong Z, Yu J, Kang M, Song Y, Xia J, Guo Q, Song T, He J, Yen HL, Peiris M and Wu J. (2020) SARS-CoV-2 viral load in upper respiratory specimens of infected patients. *N Engl J Med.* 382(12): 1177-1179.