

COVID-19: AN EMERGING OUTBREAK THROUGHOUT THE WORLD

Soumya R. Patil and Pulikeshi M. Biradar*

Department of Zoology, Karnatak University, Dharwad-580003 (Karnataka), India

Abstract- Corona virus (COVID-19) is major outbreak which took place in Wuhan, China first and then it rapidly occupied the whole world within a couple of months and still causing severe ‘illness’ and threat to mankind. As on now, there are no specific vaccines or particular treatments are available and no medicine so far discovered to fight against this deadly virus. Therefore, precautionary measures should be taken to get out of COVID-19 virus. Social distancing is one of the best basic precautionary measure and prevention method to protect us from this corona virus.

Key words: Status, Corona virus (COVID-19), SARS-CoV-2, Outbreak, Pandemic disease and Pneumonia.

***Corresponding author**

1. INTRODUCTION:

(a) What is COVID-19?

Corona virus disease (COVID-19) is a infectious disease caused by a newly discovered novel corona virus. These are large family of viruses that are known to cause ‘illness’ mainly infect the respiratory track. A corona virus have distinctive crown-like spike covering its surface and they are “zoonotic”.

It spreads primarily through droplets of saliva or discharge from the nose, when an infected person cough’s or sneezes. Older people and those with under lying medical problems like cardiovascular diseases, diabetes, chronic respiratory diseases and cancer are more likely to develop serious illness.



(b) History:

At the end of 2019 during December, a pandemic disease called COVID-19 was identified in ‘Wuhan’, a city in the Hubei province of China, when they were treating the pneumonia suspected cases [1, 4, and 5]. Within a few days the COVID-19 viruses rapidly spread resulting in an epidemic throughout China and followed by other countries and now dominated throughout the world by causing severe ‘illness’, which was uncontrollable.

(c) Terminology given by World Health Organization (WHO):

The WHO originally called this disease as a novel coronavirus-infected pneumonia (NCIP), and virus was named as 2019 novel coronavirus (2019-n CoV) 1. In month of February 2020, the WHO officially designated the disease as COVID-19 and the virus that cause COVID-19, which is designated as SARS- CoV-2 (Severe

Acute Respiratory Syndrome Coronavirus-2) [2, 6 and 7]



(World Health Organization)

2. GENOME ANALYSIS/ COMPARISON:

Analysing the full genome sequence and phylogeny of this virus, it revealed that the corona virus (COVID-19) is a Betacoronavirus and very close to several acute respiratory syndrome (SARS- CoV), responsible for an epidemic of acute pneumonia, which appeared in November-2002. But virus that cause COVID-19 and one which caused SARS are related to each other genetically but disease they cause are quite different with each other.



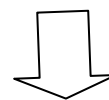
According to scientists the genomic comparison suggests that the SARS-CoV-2 virus is the result of recombination between two different viruses or chimeric virus. It is still unclear whether this COVID-19 virus is transmitted through Bat and Pangolin or through any other mechanism is not till date.

3. GEOGRAPHICAL DISTRIBUTION:

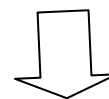
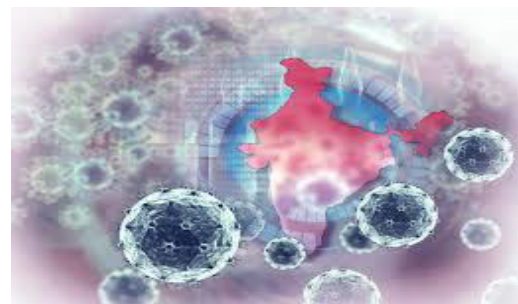
This outbreak of this virus, as occupied globally more than two million confirmed cases

of COVID-19 have been reported so far and the confirm cases number steadily rising around the World. A joint fact finding mission by World Health Organization (WHO) and China estimated that COVID-19 virus level in China had reached the peak between late June and early February-2020 [4] and it decreased by early March-2020. In India, the first case of COVID-19 pandemic was reported on 30th January-2020 in Kerala, which rises 3 case by 3rd February and first death reported from Gulbarga city Karnataka state, India.

4. ACCORDING TO WHO UPDATED DATA AS ON 20-04-2020:



Worldwide- Confirmed case - 24,104,249
Recovered case - 6, 24,725
Deaths - 1, 65, 234



In India-Confirmed case - 17, 265
Recovered case - 2,547
Deaths - 543

5. HOW IT SPREAD?

The virus may mutate and can be transferred from human to human. So human beings are main mode of transmission of this COVID-19 virus. Spread of SARS-CoV-2 occurs mainly through respiratory droplets, through close personal contact by touching contaminated surfaces and then touching your face.



6. INCUBATION PERIOD:

Between catching the virus and beginning to have symptoms of Corona virus the disease. Incubation period of COVID-19 is 1-14 Days. Most commonly around 5 days

7. SYMPTOMS OF COVID-19:

Common symptoms:

- Fever
- Tiredness
- Dry cough
- Runny nose
- Shortness of breath
- Sputum production

Less common symptoms:

- Headache
- Sore throat
- Chill
- Aches and pains

Rare symptoms:

- Nausea
- Vomiting
- Nasal congestion
- Diarrhoea [3]
- Chest tightness [8]

8. DIAGNOSIS OF COVID-19:

Done by throat swab and Blood test

9. TREATMENT FOR COVID-19:

There is no specific treatment to eradicate this disease caused by a novel Corona virus, but many of the symptoms can be treated based on the patient's clinical conditions. However, there are many ongoing clinical trials evaluating potential treatments like Plasma therapy

(a) Plasma therapy- Bringing a ray of hope to fight battle against COVID-19

Convalescent plasma therapy is an experimental procedure for COVID-19 patients. In this treatment, **500ml** of plasma from a COVID-19 recovered patient, who is having high immunity to suppress the level of this virus will be taken and transfused into an infected patient who is in critical condition so that infected person is going to increase his/her immunity level so as to make it possible to fight against the virus. Through this plasma therapy, the activity of virus is going to decrease drastically within 12-14hrs.



(b) What is plasma?

Blood plasma is a yellowish fluid, a component of blood that holds the blood cells and many antibodies and variety of proteins such as albumin, fibrinogen and clotting factors etc.

(c) How plasma work in human body?

Blood contains plasma, which is known as ‘The juice of life’ which contains mainly water and various salts, Plasma transport to different parts of the body through blood circulation. Plasma mainly helps to remove the wastes from the body, which are generated by our own cells during metabolism.

These plasma proteins and antibodies are used treat very rare and long term diseases. Through plasma of one person (500ml), we can treat 3-5 persons at a time.

10. PRECAUTION MEASURES:



- If you have a fever, a cough and difficulty in breathing seek medical attention
- Follow the direction of your local health care provider/Authority
- Proper nutrition and hydration are vital to treat Corona virus
- Antibiotics should not be used as a mean of prevention or treatment of COVID-19

11. CONCLUSION:

Corona virus is a pandemic disease, which does not travel very far in the air, as it is contained in respiratory droplets, which fall quickly on to the ground and do not linger in the air, so keeping distance from an infected person may help to protect you. It is also confirmed that no antibiotics are going to prevent COVID-19 as these antibiotics do not work against viruses; they only work on bacterial infection. So staying in home by taking all precautionary measures and taking help from local health care provider/department is the best remedies to vanish the COVID-19.

STAY HOME, STAY SAFE, SAVE LIVES

REFERENCES:

- 1) Another Decade, Another Coronavirus (2020): New England Journal of Medicine. [doi:10.1056/NEJMe2001126](https://doi.org/10.1056/NEJMe2001126) - Pubmed
- 2) Enserink, M. (2020): Update: ‘A bit chaotic.’ Christening of new coronavirus and its disease name create confusion. [online] Sciencemag.org. Available at: <https://www.sciencemag.org/news/2020/02/bit-chaotic-christening-new-coronavirus-and-its-disease-name-create-confusion> [Accessed 18 February 2020].
- 3) Guan WJ, Ni ZY, Hu Y, Liang WH, Ou CQ, He JX, Liu L, Shan H, Lei CL, Hui DSC, Du B, Li LJ, Zeng G, Yuen KY, Chen RC, Tang CL, Wang T, Chen PY, Xiang J, Li SY, Wang JL, Liang ZJ, Peng YX, Wei L, Liu Y, Hu YH, Peng P, Wang JM, Liu JY, Chen Z, Li G, Zheng ZJ, Qiu SQ, Luo J, Ye CJ, Zhu SY, Zhong NS. Clinical Characteristics of Coronavirus Disease 2019 in China. (2020): The New England journal

of medicine. [doi:10.1056/NEJMoa2002032](https://doi.org/10.1056/NEJMoa2002032) - [Pubmed](#)

4) Hui DS, I Azhar E, Madani TA, Ntoumi F, Kock R, Dar O, Ippolito G, Mchugh TD, Memish ZA, Drosten C, Zumla A, Petersen E. The continuing 2019-nCoV epidemic threat of novel coronaviruses to global health - The latest 2019 novel coronavirus outbreak in Wuhan, China. (2020): International journal of infectious diseases : IJID : official publication of the International Society for Infectious Diseases. 91: 264-266. [doi:10.1016/j.ijid.2020.01.009](https://doi.org/10.1016/j.ijid.2020.01.009) - [Pubmed](#)

5) Na Zhu, Dingyu Zhang, Wenling Wang, Xinwang Li, Bo Yang, Jingdong Song, Xiang Zhao, Baoying Huang, Weifeng Shi, Roujian Lu, Peihua Niu, Faxian Zhan, Xuejun Ma, Dayan Wang, Wenbo Xu, Guizhen Wu, George F Gao, Wenjie Tan. A Novel Coronavirus from Patients

with Pneumonia in China, 2019. (2020): New England Journal of Medicine. [doi:10.1056/NEJMoa2001017](https://doi.org/10.1056/NEJMoa2001017) - [Pubmed](#)

6) Severe acute respiratory syndrome-related corona virus: The species and its viruses, a statement of the Corona virus Study Group. Alexander E. Gorbalenya. bioRxiv 2020.02.07.937862; <https://doi.org/10.1101/2020.02.07.937862>

7) The species Severe acute respiratory syndrome-related coronavirus, classifying 2019-nCoV and naming it SARS-CoV-2. (2020): Nature Microbiology. [doi:10.1038/s41564-020-0695-z](https://doi.org/10.1038/s41564-020-0695-z) - [Pubmed](#)

8) Zheng YY, Ma YT, Zhang JY, Xie X. COVID-19 and the cardiovascular system (2020): Nature reviews. Cardiology. [doi:10.1038/s41569-020-0360-5](https://doi.org/10.1038/s41569-020-0360-5) - [Pubmed](#).