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Research Article

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Air borne transmission is the main causes of Covid-19 strain -2: A novel framework

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ABSTRACT

In this paper here we summarize that the India started air borne transmission disease against the covid-19 pandemic. We address current information about the COVID-19 strain - 2 in this analysis. The goal of this work is to comparative analysis of covid-19 and COVID – 19 strain – 2, advise for vaccine. We also proposed framework for Covid-19 Strain – 2.

Keywords: COVID–19 diseases, vaccination and novel frame work for COVID-19 for strain -2

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INTRODUCTION

Airborne disease can spread when people with certain infections cough, sneeze, or talk, spewing nasal and throat secretions into the air. Some viruses or bacteria take flight and hang in the air or land on other people or surfaces (WHO 2020a). When you breathe in airborne pathogenic organisms, hey take up residence inside you. You can also pick up germs when you touch a surface that harbours them, and then touch your own eyes, nose, or mouth. A rapidly spreading corona virus, SARS-Cov-2, and the disease it causes, COVID-19, has been responsible for millions of infections and hundreds of thousands of deaths globally in 2021. While the corona virus that causes COVID-19 is not generally considered to be airborne, there may be some situations in which the virus can act like an airborne disease. These include certain

clinical settings in which people are receiving intensive medical treatment. In usual situations, SARS-Cov-2 is spread through respiratory droplets after a person coughs or sneezes, but these droplets are larger than what is considered airborne (WHO 2014). Airborne diseases happen all around the world and affect virtually everyone (WHO 2020b). They spread easily in close quarters, such as schools and nursing homes. Large outbreaks tend to occur under crowded conditions and in places where hygiene and sanitation systems are poor. Incidence is lower in countries where vaccines are widely available and affordable. No studies have found viable virus in air samples (Faridi et al 2020; Cheng et al 2020).

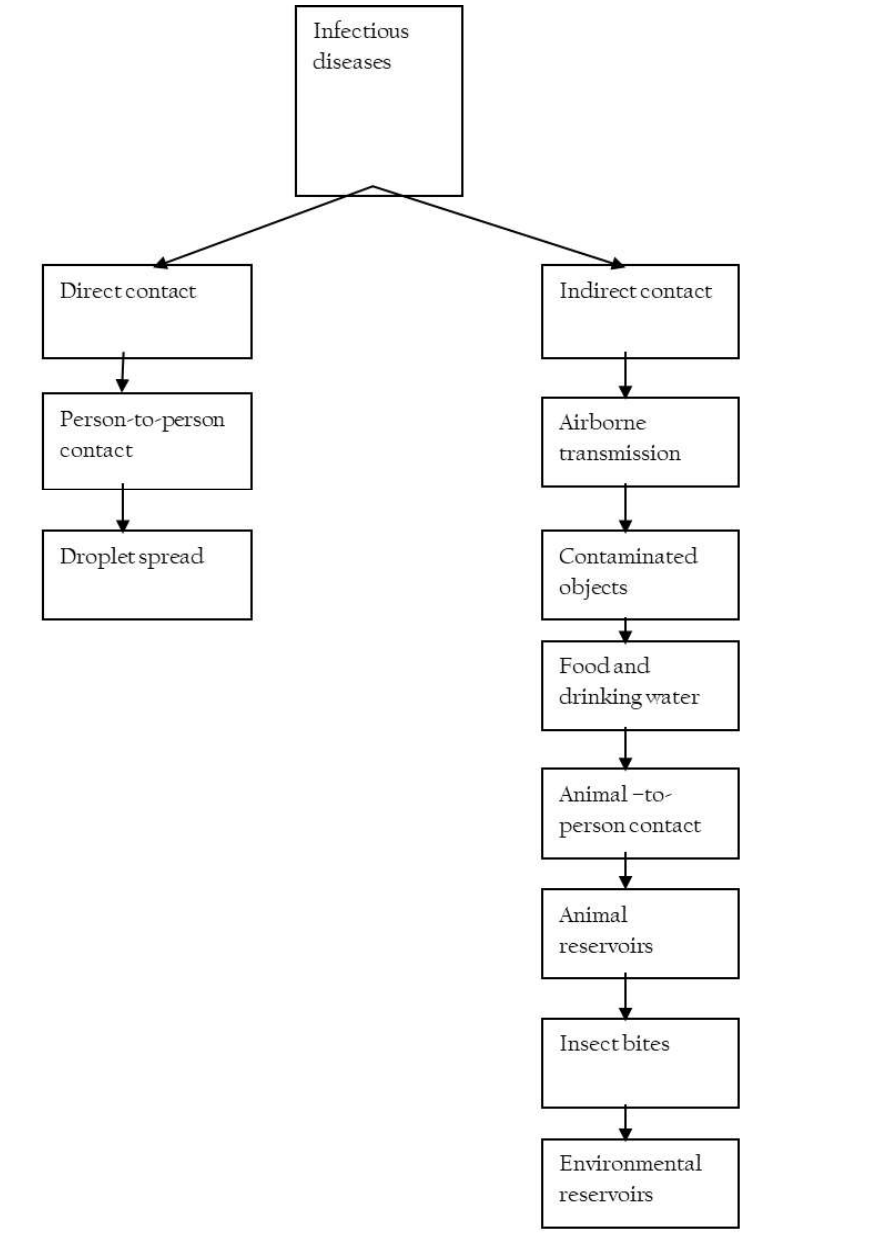
How to prevent spreading an airborne transmission disease: Although it's impossible to completely avoid airborne transmission, but there are some things we can do to lower our chances of getting sick as:

- Avoid close contact with people who have active symptoms of disease (Somsen et al 2020).
- Stay home when you're sick. Don't let vulnerable people come in close contact with you.
- If you must be around others, wear a face mask to prevent spreading or breathing in germs.
- Cover your mouth when you cough or sneeze. Use a tissue or your elbow to cut down on the possibility of transmitting germs on your hands.
- Wash your hands thoroughly (at least 20 seconds) and often, especially after sneezing or coughing.
- Avoid touching your face or other people with unwashed hands.

LITERATURE REVIEW

One experimental study quantified the amount of droplets of various sizes that remain airborne during normal speech (Stadnytskyi et al 2020). Another recent experimental model found that healthy individuals can produce aerosols through coughing and talking (Somsen et al 2020). Some studies conducted in health care settings where symptomatic COVID-19 patients were cared for, but where aerosol generating procedures were not performed, reported the presence of SARS-CoV-2 RNA in air samples (Faridi et al 2020; Cheng et al 2020). The detection of RNA using reverse transcription polymerase chain reaction (RT-PCR) - based assays is not necessarily indicative of replication- and infection-competent (viable) virus that could be transmissible and capable of causing infection (Bullard et al 2020). Recent clinical reports o health workers exposed to COVID-19 index cases, not in the presence of aerosol-generating procedures, found no nosocomial transmission when contact and droplet precautions were appropriately used, including the wearing of medical masks as a component of the personal protective equipment (PPE) (Durante-Mangoni et al 2020; Wong et al 2020).

Block diagram and Mode of Air borne transmission of Covid-19 Strain-2:



Ways of airborne transmission of covid-19 strain-2

How to prevent airborne transmission of covid-19 strain-2:

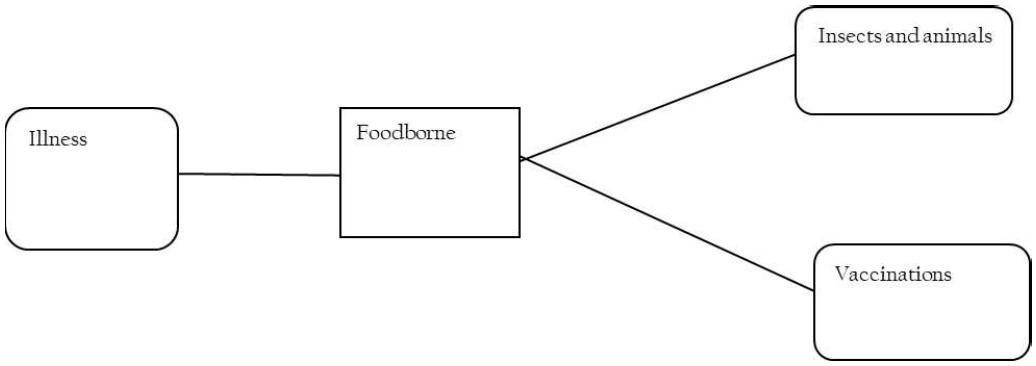


Figure 2: Prevention of airborne transmission of covid-19 strain-2

COMPARATIVE ANALYSIS

Parameters	Covid-19	Covid-19 Strain-2 (airborne disease)
Symptoms	Fever, cough, fatigue, shortness of breathe	Fever, fatigue, loss of appetite, congestion, coughing
Topology	Network topology	M protein topology
Size	It has round or elliptic and often pleomorphic form, and a diameter of approximately 60–140 nm	>5micro metre as droplets and <5 micro metre as aerosols or droplet nuclei
Incubation period	Average 5-6 days, but can be as long as 14 days	Same as COVID - 19
Nature	Spiky / Crowns	Spike / Crowns
Range	large	large
RT-PCR	Detect accurate result	Failed (not detect accurate result)
Origin	Bats	Host specific

Proposed framework for Covid-19 Strain – 2:

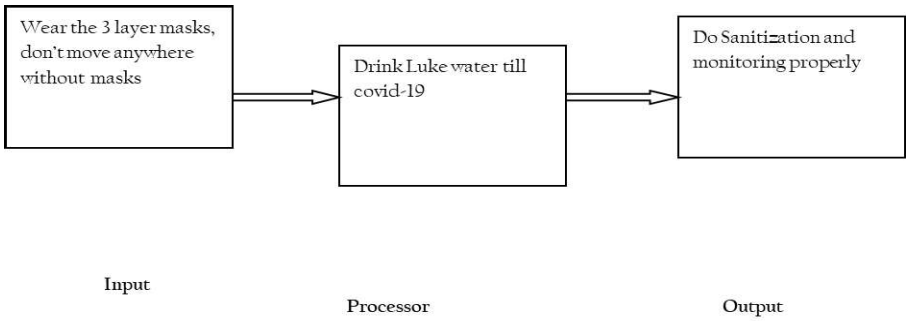


Figure 3: Block diagram of proposed future framework

Advise: Vaccines can reduce our chances of getting some airborne diseases. Vaccines also lower the risk for others in the community. In developing countries, mass immunization campaigns are helping to lower the transmission rates of some of these airborne diseases. According to new research shows Gatherings of people increase the risk of corona virus exposure. So the best way to avoid exposure to the virus is to avoid contacts and if this is not possible, the risk of infection can be reduced by wearing masks and through more efficient ventilation in the space.

CONCLUSION

Here we concluded that vaccinations can drastically reduce our risk of becoming ill with some infectious diseases. If we can avoid a particular disease, then we can also prevent the spread of the disease. Covid – 19 is sufficient indication for testing for what appears to be a milder case not requiring hospitalization. They will base this on the local outbreak situation, and evaluation of those with severe respiratory illness of unclear origin. At present there is no specific antiviral treatment for Covid – 19. Most sufferers experience mild illness and recovery with supportive care is important for the patient. There have been cases with severe respiratory illness, mostly pneumonia; severe illness appears to be most frequently seen in those with underlying chronic conditions. Those with serious health conditions such as chronic obstructive pulmonary disease, cancer or other illness that compromise the immune system are more likely to experience complications from Covid -19, flu or pneumonia. So here we can say that the spread of Covid – 19 worldwide is such a rapidly evolving situation due to air borne transmission is the main Causes of Covid-19 Strain-2.

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Author Contributions

Arunesh Dutt, Mahesh Dutt Tiwari, Pushpesh Dutt Tiwari, Shipra, Ashish Khare, N.K.Shukla.

Conflict of Interest

The authors declare no conflict of interest.

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