Microdroplets are more infectious of COVID-19 spread in a closed door

To the Editor,

Viruses are the most common cause of infectious disease acquired within indoor environments and have deep impact on human health which ranges from mild to severe life threatening considerable impact on human health.[1]

The current epidemic of coronavirus diseases has become global threat and the focus on control and prevention of the diseases necessary as the global morbidity is increasing. The affected patients of this epidemic were exposed to wildlife animals at the Huanan seafood wholesale market of China. The spread of the disease is very contagious and rapid affecting globally and it is in rise in various parts of the country. The viruses have been identified as the most common cause of infectious diseases acquired within indoor environments,[2] Among the most common types causing respiratory infections are influenza viruses, rhinoviruses, coronaviruses, respiratory sync-tial viruses (RSVs), and parainfluenza viruses.[2]

The transmission of infection is of two main route, one is from the virus on the surfaces and other is infection from the droplets from the sneeze and cough skin flakes and fungal spores.[3] Each of these processes generates aerosol droplets of different characteristics in terms of their size and initial speed.[2] There is third type of spread through closed personnel contact within the home, community centers, daycares, school classroom, University through the microdroplets.[1] When a person sneeze or coughs, talks loud, vomiting the droplets is released which is of 1 mm in diameter which falls on the ground within a minute,[2] but the microdroplets which glitter through the air which are smaller than 10 micrometer or 100th of milliliter and diameter. They are small and light drifting through the air and stays and does not drift from air for a period of time.

No studies have proven the volume of microdroplet for the infection. There is high risk of spread of infection in closed room or in a class room. For example, in a closed room of 10 people, if a person coughs once there is spread of 1,000 droplet with most of them fall on the ground in a minute and the the microdroplet spreads in a very high volume for long period.

Cross-contamination at home.

The spread of COVID-19 is high due to cross-infection caused by the environmental factors.[4] The spread of infection by microdroplets is high through the closed door with no fresh air. Few studies quote about the spread of infection of retrovirus on dining tables, telephones, mobiles, gas cylinder's textiles which get carried away from the airborne carrier leading to food-borne infection.

Conclusion

As the current epidemic of COVID-19 spread the human environments, including homes, offices, schools, and other settings, have high potential of harmful microorganisms. In considering measures against infection spread, the target is not eradication of these microorganisms, but limiting the risks of exposure to prevent larger disease outbreaks.[1] The lockdown and self-quarantine measures during this period is necessary in breaking the transmission along with the primary care by the physicians in control of the diseases with conducting more diagnostic test. Especially in developing countries with thick population family physicians plays a key role in ceasing the spread of infection in the community. The World Health organization in its recent recommendation has given the guidance on hand hygiene includes using washing hands with soap and water or alcohol-based hand rub (ABHR), social distancing, giving fresh air in the closed rooms helps in drifting the virus through air force by opening the window, disinfectants are used in a variety of domestic situations, use of alcohol wipes to clean the food packages and surfaces.

Declaration

Prior presentation; No data was presented in any scientific presentation.

Financial support and sponsorship

Nil.

Conflicts of interest

There are no conflicts of interest.

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Received: 03-04-2020 **Revised:** 26-04-2020
Accepted: 08-05-2020 **Published:** 30-07-2020

Access this article online

Quick Response Code:

Website: www.jfmpc.com

DOI: 10.4103/jfmpc.jfmpc_526_20

How to cite this article: Al Qahtani F, Al Qahtani MF, Al Qahtani AF, Bhat N. Microdroplets are more infectious of COVID-19 spread in a closed door. J Family Med Prim Care 2020;9:3776-7.