In the air

With more evidence of aerosol transmission, physical distancing and masking are crucial

The Centers for Disease Control and Prevention (CDC) is revising its guidelines to acknowledge the spread of the novel coronavirus through aerosols, and to point to inhalation of particles as a common way the virus spreads. A draft of the proposed changes to its recommendations, which was later withdrawn pending finalisation, confirmed that airborne particles can spread even by breathing, remain suspended in air and be inhaled and spread beyond six feet in certain enclosed settings. This comes after a body of evidence provided sufficient indication of aerosol (less than 5 microns) transmission, especially in closed settings with poor ventilation and after prolonged contact with an infected person. In February, researchers from the Wuhan Institute of Virology, in a paper published in *Nature*, first proposed airborne transmission. The paper also identified and characterised the novel coronavirus and confirmed the receptor to which the virus binds. The World Health Organization had, on July 9, acknowledged that the virus can be airborne in closed settings after an open letter by more than 200 scientists appealing to the medical community and national and international bodies to "recognize the potential for airborne spread of COVID-19".

Beginning with the cruise ship, *Diamond Princess*, large outbreaks have been documented in churches in South Korea and Singapore, prisons, old-age homes, ski resorts in Austria and even choir practice in a church in Mount Vernon, Washington, providing strong evidence of aerosol transmission in certain closed settings early during the pandemic. It is therefore bewildering that both WHO and the CDC refused to adopt the precautionary principle and caution people even while collecting data to confirm or refute that possibility. However, even in the absence of guidelines from the global bodies, many countries had on their own denied permission for certain enclosed settings to operate, thus averting innumerable outbreaks and cases. With aerosol transmission now being confirmed and its spread to distances beyond six feet also known, the only way to prevent infection till such time and probably even when vaccines become available is through universal masking. Timely cautioning by global bodies of an aerosol transmission possibility might have encouraged universal mask wearing early on, thus preventing thousands of cases. Universal masking can avert infections, and if infected, the amount of viral load one is exposed to will be less, thus leading to only asymptomatic infections or mild disease. Unlike *Diamond Princess*, universal masking in another ship led to 81% of infections being asymptomatic. There have been similar results in other cases where universal masking was practised. With aerosol transmission now being established as a common way of spread in certain settings, the best way to avoid getting infected is by staying clear of crowded, closed settings that have poor ventilation.