COVID AEROSOL RISK

Covid-19 and aerosol transmission: up in the air

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The BMJ’s article about aerosol transmission in covid-19 rightly draws attention to an important subject, but the title—“Risk of aerosol transmission to staff outside of intensive care is likely to be higher than predicted”—is misleading.1 The risk of aerosol transmission is probably substantial in covid-19, and infection control policies should reflect this. But the quoted study does not help us quantify this risk outside of intensive care units.

The study of Hamilton and colleagues, to which the article refers, reports two main findings.2 Firstly, administering two types of non-invasive respiratory support to healthy volunteers led to the release of either fewer or no more aerosol particles from the respiratory tract than when coughing, speaking, and breathing normally (for continuous positive airways pressure and high flow nasal oxygen, respectively). Secondly, among both healthy volunteers and inpatients with covid-19, numbers of emitted respiratory aerosols seemed higher when coughing than when breathing or speaking.

Rather than the risk of aerosol transmission outside of intensive care being higher than predicted, a better interpretation of the findings (as the authors imply) might be that the risk of aerosol transmission inside intensive care units is likely to be lower than previously thought.

Another recent study has also shown the relatively low aerosol generating potential of non-invasive respiratory support.3 And coughing is well documented to produce high numbers of respiratory droplets,4 hence the role of cough in transmitting other respiratory infections including tuberculosis, the archetypal airborne disease.5

The best evidence for airborne (or aerosol) transmission of covid-19 is from outbreaks6 and through the detection of virus in air samples.7 Airborne SARS-CoV-2 has been detected in intensive care units and other general hospital areas.7

What is meant by airborne or aerosol transmission can be confusing,6 but there are now good arguments for promoting measures to reduce inhalation of the smallest droplets by exposed individuals. This is the case whether the virus is contained in “ballistic” droplets emitted at close range from an infected person or in aerosolised particles over longer distances, minutes or more after leaving the source.

Full response at: https://www.bmj.com/content/372/bmj.n354/rr

Competing interests: None declared.

1 Torjesen I. Covid-19: Risk of aerosol transmission to staff outside of intensive care is likely to be higher than predicted. BMJ 2021;372:n354. doi: 10.1136/bmj.n354 pmid: 33541056