Review of: "The Build-Up of Droplet/Aerosols Carrying the SARS-CoV-2 Coronavirus, in Confined Spaces"

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This paper used the Lagrangian theory to divide the exhalation process into Richardson distribution and Eulerian diffusion, and developed a model to compute the risk of contagion. The research is meaningful, but a few issues should be addressed before it can be formally published.

1.Please describe in detail what are the conventional models the author mentioned in the sentence
“These small droplets quickly evaporate into aerosols and we show that the aerosol concentration may increase linearly in time with reinjection of the contaminated air, and not quickly approach a steady state concentration, as predicted by the conventional models.”

2.Simply because “no one else at the restaurant nor the servants fell ill” cannot lead tp the statement that the infection is consistent with droplet transmission, as infections occur also depend on the quantity of aerosols that people inhale.
“The infection is consistent with droplet transmission because no one else at the restaurant nor the servants fell ill. Only the persons in the direct airstream of the air-conditioner fell ill.”

3.The research mainly considers turbulent fluctuation in virus-laden aerosols transmission, but inertia force of the exhalation flow is also important in this process, especially when people cough or sneeze. I disagree the statement of the sentence “Thus no matter in which direction the puffs of droplet/aerosols were exhaled, they get shaped into a cloud with a cylindrical symmetry by the ventilation wind along the axis (x), see Figure 5, and the exhalation velocity along the radial (y) direction”. When people cough, exhaled aerosols easily travel at least 10 meters, which, in the Guangzhou case, has accessed to table E and F. How does the author use his model to explain this phenomenon?

4. Literature review is insufficient. Please add some works that consider the inertia force, or both the inertia force and turbulent fluctuation.

5.Can you provide any validation to your statement “the resulting concentration in the pyramid is 72 × 1/14 = 5.16 times what it was in the cylinder, the first time it was full”? According to your calculation, it is five times, but, do you have any supporting evidences to this “five times”?