Review of: "Real-World Efficacy of N95, Surgical, and Cloth Masks in Mitigating SARS-CoV-2 Respiratory Infections: A Comprehensive Comparative Study"

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Potential competing interests: No potential competing interests to declare.

The subject of this work is very interesting. Also the participating rewieving process is very interesting and innovative.

In my opinion the abstract results quite generic, a reader usually try to find some relevant quantitative results (although in a concise form) to understand if the paper should be of interest for our studies, it contains too much introductory statements.

About formula (1) in my opinion it is not necessary to set N=1,000 and multiple for 1,000 in formula (1), simply define the C as the the cumulative number of infections per 1000 mask wearers.

Figures 1, 2, 3 and 4: on the Y axis should be specified: “Cumulative number of infections” as a reader could be induced to understand “number of infection a day”. A graph showing the increase of infections in the case of a blank sample (no wearing) lacks.

The authors wrote: “Note: Line of best fit is drawn” but I see no line of best fitting in the graph. Where are raw data ? Moreover what software has been used and what type of fitting ? What type of fitting as the lines are broken line ? I suggest to report raw data as circles superimposed to the fitting as continuous line, with the same colors, three colors for the three types of masks.

The authors stated “The N95 masks show the slowest rate of increase, followed by the surgical masks, and then the cloth masks.” how this rate of increase has been computed ? If the rate has been visually computed (but this evidence should be validated by a statistical analysis) from a visual point of view the trend of the cumulative number of infeections is reaching a plateau in the case of N95 and surgical masks, (this suggests the peak of infections a day has been reached if a logistic expansion is assumed) whereas the exponential rise of the cloth masks cumulative number of infections suggests the peak of infections a day has not been reached. As you know the first derivative of the cumulative curve represents the number of infection cases in a day if a logistic expansion is assumed as an example.

I suggest to use only figure 4 as it represents the data reported in figures 1-3 in a more readable and comparable way.

“These findings underline the significance of adopting a multi-faceted approach to mitigating the spread of infections, incorporating not only the use of masks but also other preventive measures such as physical distancing, hand hygiene,

and vaccination. ” there is no evidence from data of the paper, about this statement, I suggest to erase this sentence. The same for: “Our results emphasize the importance of widespread mask usage as a crucial public health measure in controlling the transmission of respiratory infections. ”

There were no details about PCR tests conducted every three days to assess the cumulative number of infections among the participants. Moreover what type of infections were assessed ?