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Literature Review #5 (30 points)

QUESTIONS

1. What is the goal of the authors of this paper?

The goal of this paper is to determine the effectiveness of the ChAdOx1 vaccine (Covishield) in the elderly population in areas where the gamma variant is most prevalent. This study is being conducted in Brazilian elderly residents. This is being done because with new variants of concern (VOC) being seen, it is extremely important to determine if existing vaccines are still effective against them.

2. What information is this paper adding about your variant that was not offered in the first-choice paper you presented last time?

This paper said that VOC like gamma cause reduced neutralization by serum which could possibly cause less effectiveness. I did not know what VOC actually did to weaken the effectiveness of the vaccine and how it happens.

3. What is missing in the paper that you would like to work on?

The last paper I read talked about how the gamma variant could escape the Pfizer vaccine, but this article is a little older and says that the Pfizer vaccine is very effective against the gamma variant. I would like to see which is actually true with more data. Maybe the gamma variant is mutating even more than it is now not effective anymore.

4. Proposed an experiment and the way to accomplish your answer for Q4.

I would use a population in Brazil because gamma is the predominant strain in the country. The population would be grouped into the type of vaccine they got and see how the gamma variant reduces effectiveness of the vaccines in all ages and groups.

5. What is unique to your SARS variant comparing to other variants?

The gamma variant has caused mutations to the receptor binding domain, so it makes the frequency of spreading much higher.

6. Select 1 figure from the paper and

- a. explain, **in your own words**, what the figure shows

- b. and, comment why you chose it

This figure shows the effectiveness of the vaccine against the gamma variant by time since vaccination, against symptomatic Covid-19 (A), Covid-19 hospitalization (B), and Covid-19-related death (C). It shows that the effectiveness is greater when having two doses and 2 weeks+ after the second dose. I chose this because it is very clear on vaccine effectiveness and easy to read and interpret.

