Review of: "Acceptance of COVID-19 vaccination at different hypothetical efficacy and safety levels in Nigeria."

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Potential competing interests: The author(s) declared that no potential competing interests exist.

Review of MS entitled "*Acceptance of COVID-19 vaccination at different hypothetical efficacy and safety levels in Nigeria".*

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Preamble: The *warp speed* associated with COVID-19 vaccines development/rollout and their market authorization without product liability fuelled conspiracy theories worldwide.

And in the case of West Africa Nigeria inclusive, the little to no active community participation on how best to use this new intervention as observed with Ebola outbreak in 2014 simply made matters worse. To that extent, this work intended to map the possible extent of COVID-19 vaccine acceptance and the underlying mechanics of uptake is commendable. However, there are a number of issues the author may wish to address to improve the quality of presentation.

First, ***Introduction:*** The paper was focused on assessing the acceptance of a segment of the Nigerian population to five combinations of three levels of efficacy and two safety levels for COVID-19 vaccines. The author carried out a web-based survey via Survey Monkey using an adapted questionnaire to elicit the needed information. They provided several demographics of the sampled population including age, gender, income level, place of residence, etc. Logistic regression analysis was used to obtain the odds ratio and compute confidence intervals for the acceptance of each of the five hypothetical vaccine efficacy/ safety levels.

Observations

1. According to the author, there were four possible combinations of vaccination efficacy and danger of adverse effects. Vaccine A was 95% effective with a 20% chance of adverse effects; Vaccine B was 75% effective with a 5% chance of adverse effects; Vaccine C was 75% effective with a 20% chance of adverse effects; and Vaccine D was 50% effective with a 5% chance of adverse effects. However, their results (Table 1) indicated five combinations; this disparity requires rectification.
2. This MS gave the impression that the sample drawn was representative of Nigeria, and that inferences drawn were based on the Nigerian population. However, the mode of data collection and the results provided in Table 1 indicate otherwise. Since this was an online survey, it clearly limits the participation of a large segment of the Nigerian population who are not on social networks like *Facebook, WhatsApp* and *Twitter*. Further, with less than 10% of the respondents located in the rural area, the study is heavily skewed towards urban residents. Hence conclusions should be drawn based on the target population of adult Nigerians that use social networks.
3. At line 6 of the Abstract, the authors alluded that the level of significance was set at $P<0.05$. This is in error as the level of significance is denoted by and is fixed before undertaking the survey, unlike the p-value which is computed on the

bases of the sample data.

4. The results of the logistic regression analyses carried on the data as shown in Table 3 need to be reviewed as the author reported several empty 95% CI (0.00 – 0.00) which is *strange* in terms of interval estimation of parameters.
5. The author's conclusion was not based on the results provided in the manuscript. In addition, the results shown in Table 3 contained majorly non-significant odds ratios (OR) going by their p-values being greater than 0.05. The author's needs to provide a proper explanation of the implication of the odds ratios presented in the study.

Minors:

1. Vaccine hesitancy is global phenomenon and not peculiar to Nigeria [see reference 13]
2. Comparing COVID-19 vaccine to adult flu vaccine as in the methodology requires qualification as while annual flu vaccination is public health intervention especially for those most at risk elsewhere, this is less so in Nigeria.

Conclusion: The author needs to provide a more informative logistic regression analysis and discussions. Alternatively the author can limit the data to descriptive based on Nigerians with a social media presence and not the larger Nigerian population.

Courtesy*:* I thank the Editor for the opportunity to see this work at the stage of *scrutiny*

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