

# Review of: "Side effects of COVID-19 vaccination in Pakistani population: A cross sectional study"

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Potential competing interests: No potential competing interests to declare.

Thank you for the opportunity to review the manuscript.

Here are some suggestions:

Abstract:

- highly administered **modify to** the most commonly administered vaccine was..
- extreme complications **modify to** severe COVID-19 OR severe symptoms
- **Remove** the word administration in site of injection administration,
- The effectiveness of these vaccines in reducing hospitalizations, need for respiratory support and death ~~have~~ **has** been evaluated in several clinical trials

Study design:

- The questionnaire consisted of questions relating to **modify to** the questionnaire consisted of five sections...

Sample size and Data collection

- Please add the formula used for sample size calculation and name the method (i.e. difference of two proportions)
- The process of applying the questionnaire is not clear, was it an online questionnaire?
- What was considered a complication? Pneumonia? Endotracheal intubation? This should be stated. Also, I would recommend categorizing patients by severity of COVID-19 disease, which can be found here:

<https://www.nejm.org/doi/full/10.1056/NEJMcp2009249>

<https://www.acep.org/siteassets/sites/acep/media/covid-19-main/acep-covid-19-ed-management-tool.pdf>

Choose one and describe it in your methods.

- Describe the inclusion, exclusion, and elimination criteria.
- Describe what was considered as mild difficulty, moderate difficulty, severe and extreme difficulty.

Side effects following COVID-19 vaccination.

Pfizer BioNTech being the most common booster COVID-19 vaccine and **this is repetitive as you have previously**

**mentioned:** participants had received a booster dose, among which 77 (68%) received Pfizer BioNTech

Table 2

- Center the Frequency (Percentage) column

In general, for tables:

- Include the n in every table. This can help the reader to assess the impact of your results.

Supplementary table 9

- There is data missing in the fatigue side effect. Include the total n.

Association of existing illnesses with side effects of primary COVID-19 vaccination

- You mention you had 32 participants that reported comorbidities, however afterwards you mention 26 had diabetes and 22 had hypertension, and these two comorbidities add up to 48 not 32. I assume some patients had both diabetes and hypertension. I would recommend you only analyze for single comorbidity, so take out of the analysis those patients who had 2 comorbidities OR add another category for those who had both comorbidities.

Impact of COVID-19 vaccination on daily routine of the participants in page 9

- In “After being vaccinated with second dose”, there is a THE missing before second dose.

SARS-CoV-2 infection before and after COVID-19 vaccination

- There is a duplicated word and a missing number in “complications were analyzed in in participants before...”

In figure 5

- State the meaning of the (\*) in loss of sense of smell, heart palpitations and tinnitus.
- I would suggest lowering your x axis from 0-1 and cut the axis and add another one 20-100. So, then we can appreciate the differences on the symptoms with a very low OR.

In discussion:

Please address this issue:

Participants with COVID-19 history prior to vaccination, showed no association with any side effect for any vaccine (Supplementary Tables 4-8).

As it has been previously shown that a history of COVID-19 infection does increase the risk of vaccine side effects

<https://pubmed.ncbi.nlm.nih.gov/34332800/>

Thank you!

