Review of: "Perceptions and Attitudes about COVID-19 Vaccines Regarding Vaccine Intention and Hesitancy of Attendants of a Healthcare Center in Northern Cyprus"

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Potential competing interests: No potential competing interests to declare.

The proposed paper entitled “Perceptions and Attitudes about COVID-19 Vaccines Regarding Vaccine Intention and Hesitancy of Attendants of a Healthcare Center in Northern Cyprus » aims to determine the attitudes and perceptions about COVID-19 vaccination regarding the intention and hesitancy of attendants of a healthcare unit in Northern Cyprus. The rationale for questioning the vaccine hesitancy of this hospital's patients and their companions is not clearly defined in the paper. The method of analysis and presentation of results is not clearly explained, and new results not presented in the results section end up in the discussion section, making it difficult to understand the paper. Furthermore, the results seem inconsistent with the stated study objective.

To summarise, the paper would benefit from clarifying the rationale behind selecting this particular population for the vaccine hesitancy study. Additionally, there are some methodological aspects that require further elaboration, such as the recruitment process and response rates. Improvements are needed in presenting results more comprehensively, and the discussion section could be enhanced by avoiding inappropriate comparisons and providing a clear definition and measurement of vaccine hesitancy. These suggestions aim to help strengthen the overall quality of the paper.

Below, you will find my feedback on various sections of the paper.

INTRODUCTION

1. Why this specific population was selected for a vaccine hesitancy study remains unclear from the introduction. The paper would benefit from explaining the rationale for investigating vaccine hesitancy within this particular group.

METHODOLOGY

1. Using 'non-probability convenience sampling' is similar to saying 'convenience sampling,' which may be a more suitable term to describe the recruitment methodology.

2. The description of the recruitment process is unclear. Does '428 patients and their companions' mean 428 patients and their companions together, or does it include their companions in the count?

3. What was the total number of patients approached for this study, and consequently, what is the patient response rate? Furthermore, is it common for a patient's companion to participate as well? This could introduce bias, as close relations

often share similar beliefs and knowledge. Were steps taken by the authors to assess the representativeness of the study population?

4. When the authors state that 'The people visiting this clinic included a distribution of all age groups, genders, ethnicities, and nationalities, similar to the population composition of the island,' could they provide details on how they measured this similarity and what specific information they compared it with?

5. How were the questionnaires administered? Were they completed online, with assistance from a research team member, or with the help of a physician at the hospital? Providing more detailed information about this section would be beneficial

6. What adjustments were made to the questionnaire after the pilot study? It would be valuable to include the questionnaire itself as supplementary material.

7. It's unclear how the variable of intention or willingness to be vaccinated was defined. The paper states, 'The intention or willingness was measured by vaccine uptake, readiness, or hesitancy to be vaccinated,' but it lacks an explanation for the rationale behind associating intention with vaccine uptake, readiness, or hesitancy. Additionally, there's no mention of how the authors measured intention or willingness and whether the questions covered all vaccine doses

8. The statistical analysis appears inadequate. Firstly, the authors mentioned that dependent variables included perceptions and attitudes about COVID-19 vaccination, including intention, vaccine acceptance, and hesitancy. However, this analysis isn't presented in the results section. It might be more appropriate to use logistic regression, initially with univariate analysis, and then with multivariate analysis that considers all covariates to account for this aspect.

RESULTS

1. The authors listed 14 questions regarding socio-demographic characteristics of the participants but only presented 9 in the results section. It's important to know what the other questions were and why they weren't analyzed in this paper.

2. The statement, 'There was no statistically significant difference between participants with chronic disease and others regarding COVID-19 infection acquisition,' is not clearly supported by the presented tables, which makes it challenging to interpret the results.

3. Regarding the variable 'number of doses,' it's unclear whether the authors inquired if participants received no vaccine doses or if the information was unknown. In the results presentation, the authors mentioned 1 to 4 doses but did not specify the number of participants who received no vaccine doses.

4. In the results section, some information is presented without clear descriptions. For instance, the authors mention a statistically significant difference between groups based on education levels regarding information sources from social media and the internet, but this is not accompanied by a table, and the analysis methodology is not explained.

5. In the tables, some variables appear to be constructed based on participants' knowledge, such as 'Correct knowledge

of COVID-19 fatality rate' and 'Correct knowledge of COVID-19 incubation period.' However, the paper lacks an explanation of how these variables were created or measured.

6. The use of statistics and the description of results in the paper are not aligned. In the methodology, the authors outlined their intent to analyze willingness to get vaccinated using parameters like vaccine uptake, readiness, or hesitancy, but these results are missing in the results section.

DISCUSSION

1. The comparisons made in the discussion section appear inappropriate. For instance, the authors mention, 'In this study, 93.0% of the participants were vaccinated with one or more vaccine doses for COVID-19 in total. The one–dose rate is much higher than the world average of 70% [2].' However, the reference data they compare with is from September 2023, while their study occurred in October 2021.

2. There is confusion when categorizing Cyprus as a low-income country, which was not clarified in the introduction. Existing literature (https://data.worldbank.org/country/CY) suggests that Cyprus is typically considered a high-income country. In the discussion section, the results are compared to studies from low-middle income countries, and this comparison seems inappropriate .

3. In the discussion section, certain results are mentioned that were not presented in the results section. For example, the statement 'Our findings showed that 79.6% of respondents expressed being vaccinated for personal protection from infection, followed by protection of family members (79.1%)' was not included in the results section.

4. Since the measurement of vaccine hesitancy was not explained in this study, it's challenging to understand the following statement: 'In our study, the rate of participants who were hesitant about vaccines was lower than those indicated in the literature: 22.4% expressed concern about adverse effects, 18% were concerned that the COVID-19 vaccines had been hastily developed, and 9.6% believed that vaccines may be ineffective for protection from the infection.' It's unclear whether vaccine hesitancy encompasses concerns about adverse effects, rapid development, and effectiveness. If it does, what is the rationale behind this interpretation?