Review of: "How Competent are Health Professionals in Delivering Nutrition Education? A Cross-Sectional Study in Ebonyi State, Nigeria"

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Potential competing interests: No potential competing interests to declare.

Dear Editor,

Thank you for the opportunity to review this manuscript. The authors sought to measure the competencies of healthcare workers with regards to nutrition. However, the authors need to respond to the following comments which I believe could improve the quality of the manuscript.

Title: The title is missing. The study assessed knowledge of nutrition and not necessarily competency. In addition interrogative titles can be distracting. I suggest the authors focus on what was studied may be using a descriptive title in PICO format e,g., Knowledge of Delivery of Nutrition among Healthcare Workers in Nigeria and its Association with Socio-demographic and Professional Variables: A Cross-Sectional Study".

Background:

- The authors did not give a coherent overview of the problem. I suggest, that the following questions need to be addressed to enhance the clarity of the background:

1. What is the main topic the manuscript wants to address? (I guess competency of healthcare workers with regards to nutrition).
2. What is known about the topic? (A summary of previous evidence)
3. What are the gaps in the literature?
4. What is the significance of closing the gap?
5. What have you done or what you propose to do? (objective, research question or hypothesis)

Methodology

- **Sample size:** The study cited for the prevalence utilized for sample size calculated appears to be a review paper on nutrition and cardiovascular diseases. It will be really interesting to know how good knowledge was operationalized. Kindly review and insert appropriate reference.
- Since the authors have the list of the all the healthcare workers, it would have been more rigorous to calculate the sample size using any sample size software while considering population size (N), prevalence (%), 5% margin of error

at 95% confidence interval.

- **Sampling technique:** The authors need to clarify if in the second phase of sampling, whether the three sites were selected by balloting or purposively based on the presence of nutritional department.
- In the third phase, the authors utilized systematic random sampling. I have reservations here; important questions are:

1. What is the population of healthcare workers and the distribution in terms of specialties per study setting?
2. Is there any need to allocate samples proportionately to the contributing sites and further re-allocated according to the specialties?
3. If the others are interested in including diverse healthcare workers, wouldn't it be more useful to put the healthcare workers into strata (e.g., doctors, nurses etc) per site and then use maybe simple random sampling to pick the allocated number from each stratum?

- If a participant approached does not meet the eligibility criteria or refuses to participate, what happens?
- The minimum sample size calculated was 421, however, it appears from the tables that only 419 completed the study, what happened to two participants? What are their characteristics in terms of age, gender, specialty etc. You may need to insert a flow diagram to show the recruitment process (i.e., how may were approached? How many met the eligibility criteria and how many responded and who didn't respond).

Data Collection

- Briefly describe the General Nutrition Knowledge Questionnaire in terms of its psychometric properties and scoring.
- **Kindly operationalize the definition of "good" or "poor" knowledge of nutrition and insert the reference. This is very crucial because the original developer of the instrument generated scores; either total or domain-specific scores. Hence, this data is better handled as a continuous variable instead of a dichotomy of "good" or "poor". The issue is that variables like this is a continuum and attempts to reduce into category without stating an appropriate cut-off using an ROC curve is inappropriate. I suggest scores are generated as intended by the developers and appropriate statistics used.**

Data analysis

- Based on the comments above, there is need to re-analyse table 6 using appropriate statistics (if knowledge is a score = use t-test or Mann-Whitney depending on the normality of distribution of the score for two groups OR ANOVA or Kruskal Wallis test for >2 categories). A linear regression analysis should be used instead of logistic (This is because the dependent variable-Knowledge score is continuous).
- However, if the authors can provide appropriate reference of the cut-off score used to define "good" or "poor", then, they can continue as provided in the table.

Result and discussion

- As stated above
- However, one is curious to observe that having postgraduate level of education is less associated with good

knowledge (AOR= 0.4; 95% CI = 0.2 - 0.8). This was misinterpreted in the discussion.

General comments: The authors need to rigorous with their methodology, a qualitative design or full use of a validated questionnaire with appropriate scoring would have enriched the manuscript.