

## PEER REVIEW HISTORY

BMJ Open publishes all reviews undertaken for accepted manuscripts. Reviewers are asked to complete a checklist review form (<http://bmjopen.bmj.com/site/about/resources/checklist.pdf>) and are provided with free text boxes to elaborate on their assessment. These free text comments are reproduced below.

### ARTICLE DETAILS

<b>TITLE (PROVISIONAL)</b>	PREVALENCE, DETERMINANTS AND KNOWLEDGE ABOUT HERBAL MEDICINE AND NON-HOSPITAL UTILIZATION IN SOUTH WEST NIGERIA: A CROSS SECTIONAL STUDY
<b>AUTHORS</b>	Aina, Olujimi; Gautam, Lata; Simkhada, Padam; Hall, Sarah

### VERSION 1 – REVIEW

<b>REVIEWER</b>	Nattiya Kapol Silpakorn University, Thailand
<b>REVIEW RETURNED</b>	21-Jun-2020

<b>GENERAL COMMENTS</b>	<p>This research included a large number of participants. However, there are comments as follows.</p> <ol style="list-style-type: none"><li>1. There were several studies reported the use of herbal medicines in Nigeria. Why this study must be conducted? The authors stated the prevalence of herbal medicine use remains unknown. It is not the strong reason for this new study. What is the difference of this study comparing to others? Moreover, this study focused only in Nigeria. Since this journal is an international journal, the authors should state what is the benefit of this study to other countries.</li><li>2. The authors stated a mixed method was used in this study. The mixed method should include both quantitative and qualitative methods. The report stated that qualitative data were collected. However, qualitative data is not equivalent to qualitative method. Therefore, a term of “mixed method” used in this study is not appropriate.</li><li>3. The method that the authors claimed it was a qualitative study. It was not an actual qualitative method. The open-ended question in a self-administration questionnaire cannot be a qualitative method.</li><li>4. There were several studies reported the use of herbal medicines in Nigeria. Why the authors did not apply a proportion of a study in Nigeria instead of assuming 50% of the population use herbal medicines.</li><li>5. The objectives of this study were not relevant through the whole paper including abstract, background, method, and results. The factors the authors would like to study were different in many parts of paper. For example; abstract part stated determining knowledge, background part did not state knowledge measurement, method part stated collecting knowledge and perception.</li><li>6. How the authors evaluated the participants “have knowledge”? What are the criteria. How many questions of this part? What types of questions asking for knowledge? The authors asked disciplines of herbal medicine and scoring the correct answer or asked the opinion of participants if they know or don't know about herbal medicine. No details for this factor.</li><li>7. The authors stated the reasons for herbal medicines uses were collected from open-ended questions. How the authors summarize</li></ol>
-------------------------	---

	<p>this information into quantitative data in Table 3? Was there any participant answered more than one reason or cannot conclude their reasons?</p> <p>8. Why the authors focus only income class presenting in Tables? How about other factors?</p> <p>9. Did the authors test correlation between factors? There are some factors that may be multicollinearity. Pearson chi-square test which determining single factor may not suitable for this situation.</p> <p>10. This study lack of an important factor that may lead to herbal medicine use. It is underlying disease of participants. This factor may relate to the use of herbal medicine.</p>
--	--

<b>REVIEWER</b>	Prince Peprah University of New South Wales, Australia
<b>REVIEW RETURNED</b>	28-Jun-2020

<b>GENERAL COMMENTS</b>	<p>Many thanks for the opportunity to review this interesting and important work. I believe the findings are both relevant for practice and policy and even future research. I have raised some issues that I believe when addressed will help tighten the paper.</p> <p><b>Title:</b></p> <p>From the objective stated in the abstract, I suggest the authors modify the title to look simple and straightforward. The authors can consider a title of this form: <i>Prevalence, determinants and knowledge about herbal medicine and non-hospital utilization in South West Nigeria: A cross sectional study</i>”</p> <p><b>Abstract:</b></p> <p>I think, there should be comma before the South West Nigeria i.e. Ekiti state, south west Nigeria.</p> <p>Again, I am with the view that the setting should be where the study was conducted. In this case, <i>Ekiti state, south west Nigeria</i>.</p> <p>In the conclusion part of the abstract, I think the authors repeated the results than presenting a sound implication of the study findings as well as some tentative recommendations. The authors mentioned investment in public awareness and conventional health system. This recommendation is a bit vague, public awareness on what? By who? And to whom? Do the authors believe investing in conventional health system will help solve the reliance on herbal medicine and non-hospital utilization? I strongly disagree. I think recommendations around safety and quality issues as well as intercultural health system will be a better option</p>
-------------------------	---

**Background:**

The background is very succinct and interesting and congrats to the authors. However, I believe some essential information is missing. The introduction also failed to capture the socio-cultural context of the study setting that frame knowledge, attitude and perceptions about health care utilization and herbal medicine use. Socio-cultural, demographic and economic contextual information will help readers better appreciate the study results better. Similarly, what are the implications and justification of the study? How would the findings be relevant? And to whom? I am not sure it is adequate to state that limited studies exist that is while this study is important- there should be an isolated problem and rational.

**Methods:**

The authors stated in the abstract that the study is a cross-sectional one but they failed to mention this in the study design section which I find it a bit strange. Is there any theoretical or practical or empirical justification for the use of the stated equation for the determination of the sample size? Has it been applied in related previous studies? Did the authors administer the questionnaires themselves or field enumerators? If field enumerators, how did they recruit them and any training provided?

**Results:**

I am not sure it is a good practice to begin a sentence with figures i.e. 1265.....

**Discussion:**

If possible, the authors should consider restructuring the discussion:

- A short summary of the major findings
- discussion as to what is already known/reported elsewhere
- discussion of striking results and discussion as to what new insights the findings add to the evidence base
- Relating the findings to literature (I prefer the authors rely on studies in Africa such as Ghana and other neighboring countries than Western literature)

	-limitations of the study -implications for practice/policy/future research
--	--

## VERSION 1 – AUTHOR RESPONSE

### **Reviewer 1**

This research included a large number of participants.

**Response –** Thank you very much for your feedback.

1. There were several studies reported the use of herbal medicines in Nigeria. Why this study must be conducted? The authors stated the prevalence of herbal medicine use remains unknown. It is not the strong reason for this new study. What is the difference of this study comparing to others? Moreover, this study focused only in Nigeria. Since this journal is an international journal, the authors should state what is the benefit of this study to other countries?

**Response –** Thank you for your comment. Most of the studies reported on HM use in Nigeria are based on research related to specific ailments or settings. However, this study examines the use of HM in the general population and this has now been highlighted in the introduction section (paragraph 4). This study was conducted because within the study population “Ekiti state” this research interest and findings have not been documented and it will help shape government policy which can also be applied to other countries where use of HM is common.

The use of HM in this study and indeed other forms of Complementary and Alternative Medicine (CAM) practice is not peculiar to Nigeria, although other countries have various types of CAM prevalent. Their use is an interplay of various factors which this paper has examined especially in the discussion section. Hence other countries may benefit from the findings in this study as an example through formulation of further research peculiar to them and understand determinants of healthcare choice in low resource settings.

2. The authors stated a mixed method was used in this study. The mixed method should include both quantitative and qualitative methods. The report stated that qualitative data were collected. However, qualitative data is not equivalent to qualitative method. Therefore, a term of “mixed method” used in this study is not appropriate.

**Response –** Thank you very much for your feedback. We have noted and addressed this as suggested. This is included in the strengths and limitations and in PN 18.

3. The method that the authors claimed it was a qualitative study. It was not an actual qualitative method. The open-ended question in a self-administration questionnaire cannot be a qualitative method.

**Response –** Thank you very much for your feedback. We have addressed as stated above (point 2).

4. There were several studies reported the use of herbal medicines in Nigeria. Why the authors did not apply a proportion of a study in Nigeria instead of assuming 50% of the population use herbal medicines.

**Response** – Thank you for your question. We did not apply a proportion of a study in Nigeria as these studies were not general population based or on general use of HM. They were based on HM use in certain settings or certain disease conditions.

5. The objectives of this study were not relevant through the whole paper including abstract, background, method, and results. The factors the authors would like to study were different in many parts of paper. For example; abstract part stated determining knowledge, background part did not state knowledge measurement, and method part stated collecting knowledge and perception.

**Response** – Thank you for your feedback. We have made amendments as per both reviewer's suggestion. This has been addressed throughout and changes are kept in blue.

6. How the authors evaluated the participants "have knowledge"? What are the criteria. How many questions of this part? What types of questions asking for knowledge? The authors asked disciplines of herbal medicine and scoring the correct answer or asked the opinion of participants if they know or don't know about herbal medicine. No details for this factor.

**Response** - Noted and corrected in the method section.

7. The authors stated the reasons for herbal medicines uses were collected from open-ended questions. How the authors summarize this information into quantitative data in Table 3? Was there any participant answered more than one reason or cannot conclude their reasons?

**Response** - Yes there were, and this has been reflected under data analysis in the method section.

8. Why the authors focus only income class presenting in Tables? How about other factors?

**Response** – We are not sure what Table is being referred to, but relevant tables have other socio-demographic characteristics such as age, gender, level of education, religion and occupation.

9. Did the authors test correlation between factors? There are some factors that may be multicollinearity. Pearson chi-square test which determining single factor may not suitable for this situation.

**Response** – Thank you for your feedback. We have now included multicollinearity in method, results and discussion section. This was tested using the linear regression analysis on SPSS, no multicollinearity between the factors were detected as presented in the result and discussion section.

10. This study lack of an important factor that may lead to herbal medicine use. It is underlying disease of participants. This factor may relate to the use of herbal medicine.

**Response** – The intention of the study was to examine general population use and non-disease specific general use of HM. Participants' declaration of underlying disease condition may have reduced willingness to participate in an open setting such as in this study and the ethical approval requirements would be beyond that obtained for this study.

## **Reviewer: 2**

Many thanks for the opportunity to review this interesting and important work. I believe the findings are both relevant for practice and policy and even future research. I have raised some issues that I believe when addressed will help tighten the paper.

**Response** – Thank you very much for reviewing our paper. We find your feedback very useful and hence have made amendments as per your suggestions.

**Title:** From the objective stated in the abstract, I suggest the authors modify the title to look simple and straightforward. The authors can consider a title of this form: Prevalence, determinants

and knowledge about herbal medicine and non-hospital utilization in South West Nigeria: A cross sectional study”

**Response** – Thank you very much for your feedback. We have taken your feedback on board and made necessary changes.

**Abstract:** I think, there should be comma before the South West Nigeria i.e. Ekiti state, south west Nigeria.

**Response** – We have noted and corrected, thank you.

Again, I am with the view that the setting should be where the study was conducted. In this case, Ekiti state, south west Nigeria.

**Response** - Noted and corrected.

In the conclusion part of the abstract, I think the authors repeated the results than presenting a sound implication of the study findings as well as some tentative recommendations. The authors mentioned investment in public awareness and conventional health system. This recommendation is a bit vague, public awareness on what? By who? And to whom? Do the authors believe investing in conventional health system will help solve the reliance on herbal medicine and non-hospital utilization? I strongly disagree. I think recommendations around safety and quality issues as well as intercultural health system will be a better option.

**Response** – We have revised this section and taken your feedback on board.

**Background:** The background is very succinct and interesting and congrats to the authors. However, I believe some essential information is missing. The introduction also failed to capture the socio-cultural context of the study setting that frame knowledge, attitude and perceptions about health care utilization and herbal medicine use. Socio-cultural, demographic and economic contextual information will help readers better appreciate the study results better. Similarly, what are the implications and justification of the study? How would the findings be relevant? And to whom? I am not sure it is adequate to state that limited studies exist that is while this study is important there should be an isolated problem and rational.

**Response** - Noted and corrected, please find two new paragraphs and additional informed kept in blue in the background section. New references are included in blue colour.

**Methods:** The authors stated in the abstract that the study is a cross-sectional one but they failed to mention this in the study design section which I find it a bit strange. Is there any theoretical or practical or empirical justification for the use of the stated equation for the determination of the sample size?

**Response** - Noted and corrected, thank you.

Has it been applied in related previous studies? Did the authors administer the questionnaires themselves or field enumerators? If field enumerators, how did they recruit them and any training provided?

**Response** - Noted and corrected

**Results:** I am not sure it is a good practice to begin a sentence with figures i.e. 1265.....

**Response** - Noted and corrected, thank you.

**Discussion:** If possible, the authors should consider restructuring the discussion:

-A short summary of the major findings this will be like repeating the abstract

- discussion as to what is already known/reported elsewhere noted and included
- discussion of striking results and discussion as to what new insights the findings add to the evidence base covered in general discussion
- Relating the findings to literature (I prefer the authors rely on studies in Africa such as Ghana and other neighbouring countries than Western literature)
- limitations of the study
- implications for practice/policy/future research

**Response** – Thank you very much for your suggestions. We have added a new paragraph and some other additional information. New references are included in blue colour.

#### **VERSION 2 – REVIEW**

<b>REVIEWER</b>	Prince Peprah University of New South Wales
<b>REVIEW RETURNED</b>	06-Aug-2020
<b>GENERAL COMMENTS</b>	I must congratulate the authors for their effort to address all the comments that I raised during the first review. I strongly believe the paper has improved significantly. Well done