Author's response to reviews

Title: Prevalence And Modes Of Complementary And Alternative Medicine Use Among Peasant Farmers With Musculoskeletal Pain In A Rural Community In South-Western Nigeria

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Author's response to reviews: see over
Point-By-Point Reply to Reviewer's report

Reviewer: Majid Artus

Reviewer's report:

Major compulsory Revisions-
1. Title: the words ‘… in the management of….’ give the reader the unintended wrong impression of these ‘medicines’ are being somehow ‘recommended’ or ‘prescribed’ by professionals. A more accurate representation of the study content is the words ‘used for’. The same phrase appears repeatedly in the abstract and the main article text and they all need to be replaced accordingly. **Answer** – The title was changed from “PREVALENCE AND PATTERN OF COMPLEMENTARY AND ALTERNATIVE MEDICINE IN THE MANAGEMENT OF MUSCULOSKELETAL PAIN AMONG PEASANT FARMERS IN A RURAL COMMUNITY IN SOUTH-WESTERN NIGERIA” to “PREVALENCE AND MODES OF COMPLEMENTARY AND ALTERNATIVE MEDICINE USE AMONG PEASANT FARMERS WITH MUSCULOSKELETAL PAIN IN A RURAL COMMUNITY IN SOUTH-WESTERN NIGERIA”.

2. I don’t think the word ‘pattern’ is accurate here. A ‘pattern’ of use requires a longitudinal or temporal design, whereas this is a cross sectional study. So, I suggest the word ‘pattern’ is removed from the title and the others places in the manuscript. **Answer** – Pattern as used in the manuscript was replaced with “modes” in the title and throughout the manuscript.

3. Background – justifying the need to carry out this study: I don’t think the authors made a strong case to justify the need to carry out their study. In 2 of the 3 paragraphs of the background they referred to some evidence (not clear how that evidence was selected) on CAM use in the developed countries without making a clear case for the relevance of that to their study and its purpose. They then referred to ‘sparse’ evidence on the use of CAM for musculoskeletal pain in Nigeria, which suggests that there is some evidence. However, none was mentioned. They should have focused on evidence on CAM use in Nigeria, putting it in context of the developing world, and then specifically identified the research gap and how their study aims to fill that specific gap. Without building such a case, there doesn’t seem to be any good reason why the study was conducted now, among farmers, in this area. **Answer** - The introduction section of the revised manuscript was beefed up to strengthen the justification of the study. Previous studies on Musculoskeletal Disorders in Nigeria were cited. The gap in knowledge about MSP and CAM was also highlighted.

4. Study setting justification: linked to the point above, the authors did not provide a justification for their choice of the study setting, why this village? There needs to be a valid and good justification for this selection based on satisfying the specific study objectives and generalizability of the study outcome or other basis.
Answer - The materials and methods section was revised to elucidate the sampling method used in the study. The justification for the study setting, total number of respondents, response rate, refusal rate, and eligibility criteria were presented.

5. Study setting description: there was no mention of the relevant characteristics of the study setting or population: characteristics that are relevant to the objectives of the study: the size of the village/geographic area, the size and composition of its population, local health care provision and access, population socioeconomic characteristics, income, healthcare needs etc. and how all these characteristics compare with other villages in the area and with Nigeria in general. Such characteristics are significant if any interpretation, comparison or generalizability is attempted. The lack of such information would seriously hinder the understanding and interpretation of the study outcome.

Answer – The peculiarity of the study setting with respect to its small size, low infrastructure development, and lack of access to services was highlighted in the revised manuscript. The characteristics of Gudugbu closely related typical rural settings in the Nigerian context.

6. Methods: the process of selecting ‘the hamlets’ and participants is not described. It is not clear how the researchers conducted ‘random selection’ of ‘hamlets’, or how they decided on the number of participants from each house-hold etc. These are obviously important aspects that are directly related to the significant issue of selection bias and need to be clearly explained and justified.

Answer - This study employed the multistage random sampling procedure based on the World Health Organization guideline for conducting community surveys.

7. Case definition: a) musculoskeletal pain: they didn’t provide a clear definition of they mean by musculoskeletal pain, and this became even more confused as they included ‘injury’ in the questionnaire! b) CAM: the authors did not provide a clear definition for their cases (CAM use), no formal definition for CAM and they didn’t provide any evidence based outline for the ‘definition’ they adopted. They also appear to select a number of examples of CAM in the questionnaire without a clear justification for their selection. Some of these examples are not clear how they would be considered CAM, such as ‘psychiatry’ and ‘fasting’. This, obviously, would directly impact the outcome of the study.

Answer – The case definition of musculoskeletal pain based on literature was provided in the revised manuscript. Rewording and rephrasing of ambiguous items in the questionnaire used in this study was effected for clarity of the reader as suggested. The editorial mistakes in the questionnaire were also corrected. “Such as ‘psychiatry’ and ‘fasting’ were used based on local understanding of the terms. However, the words were recast in the revised manuscript.

8. Inclusion/exclusion of study participants: there is no description of how participants were selected, excluded, number of those agreed to participate, those who declined. This information is obviously very important to interpret the study findings and put them in the right context.
**Answer** – Eligibility criteria used in this study were highlighted. The main inclusion criteria for this study was a positive history or present use of CAM to manage a physician or self-diagnosed musculoskeletal pain. Response rate and refusal rate were also stated.

9. The Questionnaire: the authors’ description in the manuscript of the questionnaires they used in the study is significantly inadequate. They stated that they ‘modified’ previously used questionnaires, but didn’t outline the modification. The questionnaires needed to be published with the modifications that need to be clearly described in detail with full explanation of their justification. This is very significant as the outcome of any survey especially on CAM, with the variation in its definition depends to a large extent on the questions asked and how they are asked. The statement that the ‘questionnaires have been scrutinised for content validity by expert reviews’ without providing details and explanation is very inadequate. Also, it is not clear how was this administered? How was it administered by a researcher? Which language was used? It seems not only English, so how was translation validated?

**Answer** – More details about the questionnaire with respect to its development, validation, and mode of application were highlighted in the revised manuscript.

10. The questionnaire, in the appendix: the questionnaire is the main research tool for a study like this, and it is crucial that it is right. The questionnaire I am afraid is very poorly drafted! There are a large number of typo errors, the language is not clear and the questions are complicated and confusing, even for literate and educated participants, let alone for participants such as this study’s. I can list the following examples of the problems with the questionnaire that would render it invalid: it is not clear what ‘suggested’ by a medical doctor means; Section B, Q2 is not clear: “was your ever experience of pain, ache, discomfort, or injury within the last 12 months?”; Section B, Q5: the NRS is wrong, was described as from 0-10, where in fact its from 1-10; Q7, the sentence “have you ever treated yourself or have been treated NOT by a doctor with complementary..” is not clear; the terms ‘natural products’ and ‘traditional health products’ were introduced in the questionnaires without a clear definition or justification. I will stop here as the list is unfortunately long. The conclusion is that the questionnaire in this format has a catalogue of significant flaws that render them unsuitable research tool and consequently make the outcome of the study invalid.

**Answer** - Rewording and rephrasing of ambiguous items in the questionnaire used in this study was effected for clarity of the reader as suggested. The editorial mistakes in the questionnaire were also corrected. The NRS as used in this study on the scale of 0-10 is consistent with most previous studies where it has been used.

11. Statistical analysis: the authors did not describe clearly how they calculated the prevalence of CAM use – what was the denominator?
Answer - More details were on the statistical analysis of this study were provided. The prevalence as used in this study was defined under the statistical analysis section and the test statistics used were also highlighted.

12. Results: The study sample size was not clearly stated in the text, but from the tables it seems to be 261. How many were eligible? How many approached? How many declined to take part?

Answer - Based on the World Health Organization [43] guideline for conducting community surveys, eight out of the twelve hamlets that made up Gudugbu community were randomly chosen. A hamlet was used as the primary sampling unit and selection was based on simple random sampling with replacement from a bowl containing 12 pieces of coded numbers. In each hamlet, nine houses were selected at random. The first house to be surveyed was randomly chosen, thereafter, every other house was surveyed until the ninth as the houses do not have local government registration numbers. In order to prevent oversourcing each household, a maximum of three consenting adults aged eighteen years and older were recruited from a household. A minimum of 27 respondents were expected from each hamlet. A total of 216 respondents were expected to be recruited based on the number of households to be sampled. However, 250 individuals were approached for survey in order to accommodate for refusal of participation. Only 230 individuals who met the inclusion criteria of a positive history or present use of CAM to manage a physician or self-diagnosed MSP responded in this study, therefore yielding a response rate of 92.0%.

13. Prevalence reporting: It seems they used the 261 respondent population as the denominator for calculating the prevalence. This is, obviously, not correct. The denominator should be the whole eligible population (the village adult population) or the adults with musculoskeletal pain, etc depending on what type of prevalence the authors were aiming to estimate.

Answer – The eligibility criteria for this study was a positive history or present use of CAM to manage a physician or self-diagnosed musculoskeletal pain. Prevalence was determined based on this.

14. The statement in the first paragraph of the Results section ‘The lifetime, 12-months and point prevalence of CAM for MSP was 96.8% respectively’ needs clarification, as seems to be missing numbers.

Answer – The clarification on lifetime and 12-month prevalence of CAM use for MSP was highlighted in the revised manuscript.

15. Participants’ individual characteristics: the authors used a large section of the discussion addressing the association between CAM use and users individual characteristics, yet they concluded that their study population was ‘near homogenous’. So it is not clear why they thought they would be able to identify such associations.

Answer – Respondents’ socio-demographic variables are important co-founders in inferential statistics results from cross-sectional studies. This study adduced that the near homogenous composition of the sample with regards to their ethnicity and religion may have influence the inferential statistics results.
16. The authors state in the discussion that ‘there seems to be a paucity of studies testing the association between CAM practice for MSP and individual factors’, however they did not justify why were they expecting any difference in this among MSP patients compared with patients of other medical conditions.

**Answer** – The authors observed that descriptive reports on CAM use is replete in literature whereas fewer studies have carried out inferential analyses. The study sought to fill this gap. Hence, the inferential statistics of association between CAM use and individual factors.

17. The last sentence in the discussion section of recommending a nationwide survey on the use of CAM use in Nigeria to provide ‘more sound evidence’ is quite interesting a telling. What is the meaning and implication of this statement on their study? The reader might have the assumption at the start that the authors had a specific and justified reason for targeting ‘peasant farmers’ in a village in Nigeria to study CAM use, only to be told that the evidence here is not sound and a national survey is needed for that. This is directly linked to my earlier point about justification of selecting this setting and population – a further indication that the authors did not provide a good justification for their selection of that particular setting and population.

**Answer** – The authors did not intend to downplay the findings of a study that was based on probability sampling. But as part of best practices, to highlight to the readers the possible limitations of the study and hence make recommendations. However, this study was conducted and delimited to peasant farmers. Therefore, the findings can only be generalized to population of same characteristics and not to the general population in Nigeria. It is presume that other studies among other disease population or in the general population is a worthy venture.
Reviewer: Wenbo Peng
Reviewer's report:

Major Compulsory Revisions:
1. The fourth paragraph (Conclusion) of the abstract is exactly same with the conclusion section of the manuscript. Please rewrite the conclusion section of the manuscript with clinical implications of this study.

Answer – The conclusion section of the discussion was recast and expanded to incorporate clinical implications of the study and as such somewhat different from that in the abstract section.

2. Materials and methods, second paragraph – “A total of 216 respondents who had previously used or were on CAM to manage a physician or a self-diagnosed MSP were recruited and their data were found valid for analysis. However, 230 copies of the questionnaire were administered in order to accommodate for refusal of participation or invalid questionnaires.” How were the questionnaires administered, by post, interview or others? The two sentences should be restructured to make it easier for the readers to follow.

Answer – The sentence referred to above was recast for clarity. The mode of administration of the questionnaire was also highlighted in the revised manuscript.

3. Results, third paragraph – “There was no significant association between CAM practice and each of age…”. What is the definition of this CAM practice? Is it a specific CAM therapy or any of CAM therapy? Is the non-significant association between lifetime CAM use or 12-month CAM use or point CAM use, and socio-demographic characteristics? Please state more clearly.

Answer - The parts of the result section that were not clear or confusing as expressed were rephrased. The definition of CAM as used in this study was provided. Inferential statistics was conducted based on positive report of CAM use irrespective of type of CAM used.

4. Respondents’ religions were included in both Table 1 “Socio-demographic characteristics of the respondents” and Table 4 “Factors that influence the use of CAM for musculoskeletal pain and health care practices of the respondents”. It is not appropriate to consider religion as socio-demographic factor and influential factor at the same time. Further, the numbers of respondents of Islam religion and Christianity religion are inconsistent in Tables 1 and 4, please explain and recheck.

Answer – The errors in tables 1 and 4 were corrected. The tables were reduced from six to five by merging results with similar theme on the same table. Titles of tables were recast in the light of corrections made.

5. The title of Table 6 is “Chi-square test of association between Complementary and Alternative Medicine (CAM) practice and the socio-demographic variables”. Why the “income” which is regarded as one socio-demographic variable in Table 1 was not included in the analysis? In addition, Table 1 and Table 6 are suggested to be expressed in one table.
Answer – Table 1 shows socio-demographics only and it differs from table 6 (now table 5) which shows Chi-square test of association between Lifetime Complementary and Alternative Medicine practice and the socio-demographic variables.

6. Why the numbers of ethnicity of respondents are not consistent in Table 1 and Table 6? For example, the respondents of Yoruba were 167 in Table 1, while they were 169 in Table 6. Please explain and recheck.

Answer - The consistencies in figures in tables 1 and 6 were ensured.

Minor Essential Revisions:
1. Introduction, third paragraph – “anecdotal findings shows it is a rampant practice among Nigerians especially those in the rural communities”. There appear to be some research findings on the high prevalence of MSP in Nigeria. It would be better to add information on MSP in Nigeria in the section of introduction for readers.


Answer – The above listed studies were incorporated in the background of the study.

2. Result, first paragraph – “The lifetime, 12-month and point prevalence of CAM for MSP was 96.8% respectively.” From Table 2 and Table 3, the lifetime, 12-month and current prevalence of CAM use for MSP were all 96.8%. Please rephrase this sentence.

Answer – The statement was recast for clarity as “The lifetime, 12-month and current prevalence of CAM for MSP were all 96.8% respectively”.

3. Result, first paragraph – “Herbal therapy (83.8%) and massage (80.1%) were mostly employed for MSP as shown on tables 2 and 3.” This is the result of respondents who were not current CAM user (Table 2). From Table 3, herbal medicine and massage were also the most commonly used therapies for MSP amongst respondents who were using CAM. However, the percentages are different and not shown in the section of results. Please rephrase this sentence. In addition, there are two “incision” in the “pattern of CAM use” of Table 2.

Answer – The result section above was recast as “Modes of CAM use within the past 12-month to the study showed that Herbal therapy (83.8%) and massage (80.1%) were mostly employed for MSP. Similarly, Herbal therapy (37.5%) and massage (37.5%) were the most commonly used therapies among current CAM users (table 2).
4. This article is to investigate CAM use for MSP, including the prevalence of CAM and CAM patterns. Therefore, the details of CAM patterns need to be clarified in the section of materials and methods.

**Answer:** The details of CAM patterns was clarified in this revised manuscript. However, based on the comment of one of the reviewers, CAM patterns was described as modes of CAM use throughout the manuscript.

5. Please reformat Table 5 and Table 6, and make sure all the patterns of percentages are consistent, e.g. 63.4%, 84.7%, and 88.9% rather than 74%.

**Answer –** This has been effected, now on tables 4 and 5.

6. Please add the missing percentages of variables in Table 6.

**Answer –** Done.

The conclusion in the discussion section was also recast. In light of the additions made to the background of the study, the new references cited were also listed on the reference page. All the correction done to the manuscript was presented in BOLD FORMAT.

Thank you for the contributions to making this manuscript better.

Yours Sincerely,
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