Author's response to reviews

Title: Awareness, Use, Attitude and Perceived Need for Complementary and Alternative Medicine (CAM) Education Among Undergraduate Pharmacy Students in Sierra Leone: A Descriptive Cross-sectional Survey.

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Author's response to reviews: see over
Dear Sir,

We would like to first of all to extend our sincere gratitude and appreciation to you and the reviewers for taking the time to thoroughly go through our manuscript and provide us their feedbacks including suggestions and recommendations.

In view of the above, we are pleased to provide a step by step response to each of the revisions the reviewers highlighted. Specific references to each change in the text (highlighted in yellow) of the manuscript are noted. In addition, we are submitting the revised manuscript

REVIEWER 1

We are very grateful for the necessary suggestions you put forward and clarifications you requested. We have taken that into consideration and have made the necessary corrections. Please see below the step by step response to revision requested.

**Reviewer 1 Revision 1:** Please rewrite the abstract- (1) delete sentences about statistics “SPSS Package …..P<0.05” (2) Please explain the numbers in the bracket such as “(85&63)

**Author’s Comment:**

(1) That has been done. Please see the last sentence of the method section of the abstract.

(2) The numbers in the brackets were indicating the number of student who were aware (first number) and have used (second number) the common CAM modalities. However, we
have realized that it is very confusing and cannot be understood by readers. So we have decided to remove those numbers. Please see the first three sentences of the results section of the abstract.

**REVIEWERS 2**

**Compulsory Revisions**

We would like to register our thanks and appreciation to the reviewer for his detailed and constructive feedback and recommendations. We have tried our best to address his major, minor and discretionel issues he raised.

**Reviewer 2 Revision 1:** Although, good referencing on CAM was quoted on the international level, no facts, figures, past studies/ internationals reports (e.g. WHO review: Legal status of Traditional Medicine and Complementary/ Alternative Medicine) or current traditional medicine act at the national level (Sierra Leon) are presented in this paper, mainly for the “background” section

**Author’s Comment:**

Thanks very much for such key observation. We have provided information regarding the Sierra Leone context. Please see the second and paragraph of the background section

**Reviewer 2 Revision 2:** It is essential to present a study method that can be linked to the proposed objectives. For instance, the study takes into account the age, sex, year of study and religion factors, however, no pre-indications is stated as why these are listed in the method and how it can answer the proposed objectives (e.g. the authors can state: “another goal of the study is to investigate what determine the CAM awareness, attitudes and perception” in terms of background and characteristics)?.

**Author’s Comment:**

Thanks very much again for such vital observation and suggestion. We took note of that and have added another goal that explains further why the proposed methodology is used. See line 13-16 of the last paragraph of the background.

**Reviewer 2 Revision 3:** The categorization concept of the age group. The author needs to justify the presented form of categorization: i) is the age 15 years old among the participants (University level)? If not then why is it included? ii) The categorization of this variable should be based on a
relevant concept and reflects reality. The applied chi-square test is sensitive to the degree of freedom which is likely to be changed if another age-group categories are considered (which encouraged); hence different results are likely to appear for this analysis.

Authors comment:

We do agree that the categorization of the age, which starts from 15 years was not appropriate. Students do normally enter university at the age of 18 although few exceptions exist. In our study, the least age was 18yrs. We decided to start the categorization at that point just for convenience which was inappropriate. However, based on your comment, we have decided to recategorize the age groups in such a way that it won’t affect the frequency distribution and the interval per se. The 15-20 years age group has now recategorised as ≤ 20 years whilst the subsequent groups remain the same. With that the age group categorization and interpretation of results still remain the same results of the chi square test performed will still give similar results as previously reported. We observed that most first years student are ≤ 20 years old whilst those 2nd and 3rd year students are mostly between 21-26 years and the 4th and 5th above the age 26 years.

Reviewer 2 Revision 4: The paragraph under “Data analysis”, the second sentence needs more clarifications. Did the author aggregate the groups? Where did this happen in the analysis? Also what is the cut-off point for the group allocation (at which scale)?

Authors comment

We have provided more clarifications to the second sentence of the paragraph under data analysis. To perform inferential statistics, Binary coding was done for all categorical demographic variables i.e. for age group (≤ 26& >26) Year of study (First , Second and Third Year & fourth , fifth year) in which case they were considered as nominal scale

Reviewer 2 Revision 5

The use of Monte Carlo method? Given the types of the analysed variables and the study objectives, why did the author decides to apply this method? There are several assumptions, requirements and approach with the applied method that needs to be discussed/ mentioned (e.g.
beside the importance of a larger size analysis, did the author assume the relationship between the project parameters and the function of the project characteristics, which is necessary for this method application? Test for the normality of the data (also for the ANOVA analysis), and how it has been adjusted for the potential confounders)? Why not to consider simpler approach such as “generalized linear regression” or “ordered logistic regression”? It is also necessary to provide relevant interpretation to the generated outcome from the Monte Carlo method (distribution of probable outcome values).

Authors comment

We do agree that the Monte Carlo method was not appropriate in this case and have removed. We have analyzed our data to using chi square and fisher exact test. The fisher exact test was only considered in situation where >20% of the cells have expected frequencies of less than 5. Please see under data analysis section. With regards to ANOVA analysis we have followed your suggestion and have used generalized linear model univariate analysis which is the same as generalized linear regression analysis you suggested. Please see under data analysis section..

Reviewer 2 Revision 6

Given the study objective is to assess the need for the development of CAM within the School of Pharmacy curriculum, it is important to provide more reasoning/ justifications throughout the discussion part? Also it is good to answer some questions such as: What might be the preference of the mode of teaching among students (i.e. systematic fashion or elective and mandatory type of courses)? Which academic year of the program is most appropriate to start/ implement the CAM? These are important factors to discuss to influence the integration of CAM (what approach the school of pharmacy should follow). Also how these given preference of teaching might differ across the years of studies. This part takes us back to the study objectives, where a review of how the study method is answering the objectives is to be considered?

Authors comment

We have tried to provide justifications throughout the discussion for CAM inclusion into the undergraduate pharmacy curriculum as suggested based. Please see paragraphs 1, 3, 4 and 6 of the discussion section. We also agree that Student references with regards to the mode of learning, which academic year(s) CAM should be introduced are key factors to considered for the inclusion of CAM in to the Pharmacy curriculum. The details of these factors were not captured in this study and we do take it as one of our study limitations.
but could serve as the basis for future studies. However, the one of objectives of our study was to describe pharmacy students need for CAM education at COMAHS-USL and see how demographic variables considered in the study influence that. We think we have answered that objective.

Reviewer 2 Revision 7

The conclusion is highly influenced by the currently presented methodology, which needs some revision.

Authors comment

We have done some changes on the conclusion that address the changes in the methodology, results and discussion.

Reviewer 2 Revision 8

I would revise the abstract part, mainly the first portion of the results section.

Authors comment

We have done that as was suggested.

Reviewer 2 Minor Revision 1

The language: there is a need to do a thorough language revision considering grammar (e.g. first sentence of the second paragraph in the introduction), spelling, linking words/ sentences mainly when giving new information. The consistency of using some abbreviations like “CAM” for example) and word position/order in the sentence (second graph of the Background for example).

Authors comment

These revisions highlighted were initially made and later, the whole manuscript was sent to a native English speaker with a health background to do the necessary language revisions requested.
Reviewer 2 Minor Revision 2

It is important to pay good attention to some of the used “terms” and the difference between them such as; “health” and “healthcare”. I think in this paper that author is mainly discussing the role of the healthcare provider, presented by the pharmacist and how he/she would perceive, use and inform about CAM. The term “health” was instead used in the introduction?

Authors comment

That has also been addressed.

Reviewer 2 Minor Revision 3

The structure: there are some occasions where the authors need to consider re-structuring the sentence or paragraph. For instance, in the first paragraph of the background, I would swap between the second and the third sentences. This way the paragraph develops better coherence. Other examples of potential re-structuring are present in the third sentence of the third paragraph in the background. Similarly the first and sixth sentence in the fourth paragraph

Authors comment

We have made all necessary changes as suggested.

Reviewer2 Discretionary Revisions1

Again in the background section – first – paragraph, the author may choose to remove the part “...in China and other Southeast Asian countries...” to read better.

Authors comment

That change has been made

Reviewer2 Discretionary Revisions2

In general, it is good to aim for shorter sentences rather than the longer ones as observed in few occasions.

Authors comment

We have tried to used shorter sentences as best as possible to avoid confusion and ensure clarity and understanding of our work.
Reviewer2 Discretionary Revisions 3

Within the background part, I would use the term “perceived” of the fifth sentence in the first paragraph with more caution. This term – mainly in the African setting – could relate to some existing myths, superstitions or other superpowers rather than the actual medical value that the CAM intend to do.

Authors comment

We are trying to describe generally, the most held view (perception) regarding the safety and efficacy of CAM modalities they have used and that might be influenced by myth, or experience of use etc but not solely based on any scientific knowledge.

Reviewer2 Discretionary Revisions 4

The third sentence in the fourth paragraph of the Background part, it would be more interesting – instead of the term “most” - to present some percentage or figures of the schools that implement the CAM education.

Authors comment

We have also done that.

Reviewer2 Discretionary Revisions 5

I think it would also be more interesting if the study present the “perceived need of pharmacy students for CAM” by the “years of education” groups beside the currently presented overall percentages. This way it brings more – and probably significant – justification for the mechanism of implementation of the CAM also linking this trend to some other variables could bring additional conclusion?

Authors comment

We have also added another table that looks at the distribution of pharmacy students’ perceived need for CAM based on the year of study and other demographic variables although no significant difference was observed. We hope that is acceptable. Please see table 8
Reviewer2 Discretionary Revisions 6

One side finding would be addressed to the university/academic part of activities – as derived from the discussed findings in the sixth paragraph of the discussion section – to strengthen the scientific literature review, search engine within university students which appears to be beneficial.

Authors comment

We have tried to include university related factors that are vital to CAM development and implementation in the pharmacy curriculum. We hope it addresses what you were trying to communicate.

We hope that we have adequately addressed the concerns put forward by the reviewers and we hope a favorable decision will be taken with regards to our revised manuscript.

With Kind Regards

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