Reviewer’s report

Title: Do Clerkship Schemes effectively improve Pharmacy Students’ Understanding of and Attitudes Regarding Pharmaceutical Care?——A pre-post Study in China Pharmaceutical University

Version: 0 Date: 05 Jul 2019

Reviewer: Per Palmgren

Reviewer's report:

Thank you for your efforts in performing research on this interesting topic: Do Clerkship Schemes effectively improve Pharmacy Students' Understanding of and Attitudes Regarding Pharmaceutical Care? - A pre-post Study in China Pharmaceutical University

This reviewer has some questions and/or requests for clarifications that maybe could increase the credibility and quality of the manuscript (MS).

The MS must be corrected for lingual congruency and fluidity. The MS should also be checked thoroughly by a native English speaker.

Please include the following or reflect upon in the manuscript:

Abstract

* Please make sure the aim in the abstract is congruent with the aim the main report.

* Please be aware that only some your key terms are from the Index Medicus Medical Subject Headings (MeSH) and some are incomplete (clinical clerkship, pharmaceutical services). This is important in assisting indexers in cross-indexing your presumptive article.

Introduction

* Numbering of headings is redundant.

* To help BMC Medical Education readers it is advisable to make demarcations and definitions of some concepts used in the paper, such as clerkship, knowledge, understanding, attitude and skills as they have different ontological and epistemological connotations depending on the presumptive reader’s perspective.

* Please elaborate what is mean by "popular topics" on line 6, page 3.
* What does the authors mean with correct cognition on line 8, page 3. This sounds like there is only one definition and that everybody must adhere to it. I guess this is a language rather than content issue!

* Please make a stronger case and elaborate the sentence "Improving the understanding of PC can facilitate shaping the providers' duties and functions…..", line10-14 , page 3.

* Define and conceptualize "clerkship" line 15, page 3.

* Please clarify "…effective measure…” on line 16, page 3.

* Elaborate the sentence "…approaches with relatively good cost-effectiveness for improving the quality of PC practice." On line 1, page 4. What is meant with relatively good cost-effectiveness?

* Please exemplify some of the misunderstandings stated on line 2, page 4.

* What is meant with recognized definition? (line 8, page4)

* The authors are encouraged the further explain why term pharmacy student has an expanded meaning in China (line 14, page 4). This reviewer does understand the content of this sentence.

* Question to the authors regarding lines 17-20, page 4. Do pharmacy students need license to practice and in that case how is this issued?

* The introduction could be strengthened by applying a stronger coherence in the conceptual framework. Thus, i) addressing more profound the underlying theories of the learning and educational environment literature that can clarify the underlying scientific question of attitudes to clinical clerkship; ii) expanding the critical synthesis of knowledge from the empirical literature identifying what is already known and what is not known; and iii) the to a larger extent incorporates the researcher's individual thoughts and ideas.

* The authors could better define the gap in current knowledge, how their study will address it and articulate a "hook" that convinces readers that this gap is of consequence.

* The aim needs to be further distilled and elucidated and also better funneled with regards to the scientific rational.

* Last sentence (line 4-5, page 5) could be moved to when the gap of knowledge is raised in the conceptual framework.

Methods
* Please consider to state a cross-sectional pre-post and self-administrated questionnaire survey study design.

* On line 7, page 6 the written consent is addressed. But please illuminate if participation was voluntary, and the participants were informed about the study both orally and in writing.

* Did the author/s reflect on the long lasting debate regarding advantages and disadvantages using a midpoint? One concern among researchers about having midpoints on a Likert response format is the effects of the midpoints to the reliability and validity of measurements. Please motivate your choice of response scale.

* Please elaborate line 4-9, page 7. As, psychometric properties, such as validity, do not pertain to an instrument as such; rather, they are a feature of the construal of the results generated from a contextual study. Therefore, when inventories are translated from a foreign language and/or applied to a different population, it is an empirical question, and findings need to be psychometrically scrutinized for the population in question.

* Reversed and negatively phrased items in inventories have been reported as psychometrically problematic, although many developers of instruments adopt this strategy with the intention of circumventing response bias, particularly acquiescence. The authors are emboldened to make a stronger case for the choice of instrument.

* Even though Cronbach's alpha (line 17, page 7) is one of the most well-known estimator it has been heavily criticized. The authors are encouraged to reflect upon this.

* This reviewer does not understand why the authors refer to KMO measurement and Bartlett's test as tools to assess validity. These tests are usually regarded as tools to help to assess factorability of data and used to evaluate suitability to run an a full exploratory factor analysis.

* Table 1 is redundant.

* This reviewer hopes that the phrasing on Line 5, page 8 "... was required to read the study introduction, sign the consent...." Is due to language. Otherwise it contradicts the tenets ethical research.

* Were there multiple comparisons during Kruskall-Wallis? Please state which correction that was used for primary endpoints to control for the risk of mass significance. (line12, page 8).

Result

* Tables should be located to the end of the manuscript.
* Please state the total response rate as proportions.

* Including effect size calculations would make clearer the magnitude of relevant findings.

* In table 2 do not use the "±" symbol when presenting mean and standard deviation. The symbol is unnecessary because, by definition, the normal distribution is symmetrical and because, by definition, the SD extends an equal distance on both sides of the mean.

* Reporting normality test are not necessary when the authors have used non-parametric statistical inference as Gaussian distribution is not an assumption for these statistical tests.

Discussion

* The discussion section could be elaborated. As it stands now the discussion section is rather difficult to read and somewhat indigestible. There is a lack of coherence and difficult to follow the line of thought. It might help if you discussed your results using the five strands more clearly i) a synopsis and a brief review of the most important findings, ii) relating your findings to the empirical and theoretical literature, iii) discussing methodological limitations, iv) raising your findings to a more meta-level, discussing practical, clinical, educational and academic implications and v) finish with where to go next (future directions). With such a structure readers could consider merits of your position, quality of supportive evidence and whether your contribution advances understanding inside and outside the scientific community. The author/s is encouraged to re-organize this section.

* This reviewer has difficult to distinguish the relevant and significant contributions of the findings from the analyses of the current study in relation to what's currently known in the field.

* Please clarify the paragraph on line 20-27, page 15. What do the authors mean?

* This reviewer does not understand the statement made on line 15, page 16."Another interesting finding is the general holding back of the participants, both before....." What are the authors referring to and how is this supported by the empirical data? This sentence needs some rectification.

* The authors are heartened to try to lever the discussion to a more meta-perspective and dampen local contexts. By taking a more meta-perspective, the study would reflect higher-level ideas that would support readers to use the insights conveyed from your study to think anew about challenges they are faced with in their specific local contexts. Two key questions to consider are "What will the community learn from the study?" and "What might someone else do differently as a consequence of your work?".
A scholarly discussion section should contain a frank discussion of any areas of weakness or concern of the design and/or conduct of the study being presented; and recommendations regarding possible methods for avoiding or minimizing such concerns/weaknesses in future similar studies. This essential element of intellectual introspection is very short in the current manuscript.

Conclusion

* The conclusion should be condensed.

* Please better align your research aim and your conclusion so they are more congruent and can be read and understood when juxtaposed.

Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.

Yes

Does the work include the necessary controls?
If not, please specify which controls are required in your comments to the authors.

Unable to assess

Are the conclusions drawn adequately supported by the data shown?
If not, please explain in your comments to the authors.

Yes

Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?
If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.

I am able to assess the statistics

Quality of written English
Please indicate the quality of language in the manuscript:

Not suitable for publication unless extensively edited

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