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

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Reviewer: Francesca Quattri

Reviewer's report:

The paper seemingly wants to tackle two main research questions: 1. Do clerkship schemes in China effectively improve students' understanding and attitudes towards pharmaceutical care (PC) and 2. How can clerkship schemes be further developed for better quality?

To this end, it investigates (n=602) Chinese fifth-year pharmacy students (i.e., students graduating in clinical pharmacy)' understanding and attitudes towards PC using a self-administered questionnaire after their pharmacy rotation (clerkship schemes).

Results show that students generally understood the value of PC more after the clerkship, but their level of understanding of the primary goal of PC; of the necessity of drug information support in PC and the patients' role and duty remained low despite the rotation. The study also reported a 4% increase (from 10.8% to 14.8%) of students choosing PC as their profession after the clerkship and a rise by 3.8% of students critiquing their peers' attitudes with PC during the rotation.

INTRODUCTION

The final goal of this investigation is to find ways of providing good quality PC, by discussing "directions of improving current clerkship schemes". Consider being more specific in this regard, by providing real solutions or changes in the current schemes and the possible ways to implement them.

METHODS, RESULTS AND DISCUSSION

In light of the challenging research questions (.." in China"; not restricted to the single medical institution or the province), the methods used for this investigation (a questionnaire) may be insufficient to provide enough evidence to answer both research question 1 and 2.

In particular, if the topics proposed in Table 4 represent some parts (in the case of Table 4, allegedly part three of) the questionnaire's items, some of the latter remains unclear (e.g., the use of 'will', 'would' and 'should'; the use of 'I feel' and 'I think'; the use of the impersonal gerund like 'providing'; the use of the phrase 'the PC movement'). In terms of understanding PC, the
right/false assessments asked in the questionnaire and re-proposed in Table 3 seem to test students' knowledge of PC rather generally, with little understanding of whether the students managed to understand PC in full. Hence, statements such as in line 4 in the Discussion part ("students' understanding were… markedly improved") shall be redrafted.

As for question 2, a series of recommendations are made in the Discussion section, although rather broad in scope.

The entire original questionnaire should be attached in English form as Annex to the paper.

To further challenge the methods part of the study is the fact that the University where the survey was conducted is also, according to the authors' claim, the first institution to offer such clerkship. It is unclear whether it is the first and only or only the first. If the first, the lack of comparison with other universities' clerkship schemes makes one question the validity of the outcomes.

As the authors acknowledged in the paper and the cover letter, pharmaceutical care in China is hindered by 'potential defects' (line 22 and following). Please consider mentioning such defects in more details in the Introduction (line 22 and following page 6) and Discussion (e.g., through comparative approach with the US/UK systems mentioned), while cutting conceptual repetitions elsewhere in the paper.

Furthermore, and indirectly stated, this should be the first ever study conducted on students' understanding and attitudes towards PC in China - further reference should be provided to support such a statement.

FURTHER NOTES

In the Acknowledgment section, please consider specifying what kind of 'support' (risk of conflict of interests) China Pharmaceutical University provided for your study.

The paper needs further language editing (syntax and punctuation) before publication.

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

No

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

Yes

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?**
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