Author's response to reviews

Title: Scaling up family medicine training in Gezira, Sudan; A 2-year in-service master program using modern information and communication technology: an observational study

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Author's response to reviews: see over
Dear Editor

Thank you very much for the very positive and encouraging comments from several reviewers on our manuscript MS: 4386205851100057:

**Scaling up family medicine training in Gezira, Sudan; A 2 years’ in-service master program using modern information and communication technology: an observational study**

We have considered all the comments and suggestions from the reviewers, and have made a series of changes in the manuscript in order comply with the recommendations. Below we have commented and documented the suggestions and the changes made in more detail.

We believe that the manuscript has improved. We again thank for that the reviewers all find the paper of interest for readers concerned with international health workforce policy and development.

We thus hope that the paper now can be accepted for publication in Human Resources for Health.

We attach also a pdf file with all the changes shown in colour.

Best regards
Steinar Hunskaar
Corresponding author

**DETAILED RESPONSES TO COMMENTS AND SUGGESTIONS**

**Referee no 1 (PK)**

**Results, Enrollment of candidates** – it is described that “the recruitment of doctors was followed by recruitment of other health care workers, like laboratory technicians and nurses” – does this mean that these were also given a Master degree of Family Medicine? Or what is meant by this? And if so, how many of the 207 – and what about their charge and responsibilities etc afterwards?

This information was misplaced, and describes the addition of new staff to centers with increased numbers of doctors. The sentence has been moved to the paragraph about the responsibilities of the Ministry of Health.

**Results, The students, 1. Paragraph** – “Examples of self-assessed evaluations ....” – we need to know whether this evaluation was done prior to commencement of the programme (I think it is stated in another place that this is baseline situation, but it would serve well to mention this here as well as /or in the capture for the figure

The following text is added in Methods and in the capture: The data were collected after that each student had started the program, and for the last ones this meant several weeks into the first term.
Background, 2. Paragraph – “Vertical programs like HIV, malaria ...” – HIV, malaria etc are not vertical programs, but diseases, that are often targets for vertical programs .... But it is very true, that vertical programs should be integrated – so it is just a matter of wording.  
Corrected

Background, 3. Paragraph – “...started in 1960s ...” – “... started in the 1960s...”  
Corrected

Results, The training component – “... and service requirement.” – “... and service requirements.”  
Corrected

Results, Structure of the program, 2. Paragraph – it is stated that the electronic medical records were used to assess the real practice of the candidates – this sounds like a clinical electronical portfolio was developed and utilized. This could be deliberated further, as this tool may be very helpful for others. Similarly it is described that the candidate’s social accountability, community mobilization and health promotion were also evaluated – this also deserves more description and examples  
The following text has been added:  
This was done by checking a random number of patients’ records. The assessor discussed the findings, notes, decisions, management etc with the student, and gave feedback in a direct and personal audit process.

and

The candidates were asked to document their activities in the community through pictures, reports and minutes of the meetings. At the exam the students were asked to present the data which was collected by the community members regarding the population, age and sex register and any chronic diseases’ registries in the catchment area/practice population. The students also displayed pictures and reports about any community participation regarding rehabilitation of the health centre. Any participation of the doctor in health promotion in the community or at schools should be presented and documented. All candidates had to present and discuss a Google map poster of his/her catchment area, and to present the population pyramid of the village-catchment area.

Referee no 2 (JDM)  
Ref 31. This document has actually been published in “The African Journal for Primary Health Care and Family Medicine”, can be quoted accordingly.  
Corrected

Referee no 3 (MS)  
There are given comments via words track/changes throughout the article. We have considered all of them, and changed the manuscript accordingly. We thank the referee for a large number of adequate comments and constructive suggestions for changes. More specifically we have  
- Corrected a series of minor misspellings, bad phrases and changed the text in line with many good suggestions
- Some shortenings by rephrasing have been performed
- We have changed the title of the paper to comply with the data included: Scaling up family medicine training in Gezira, Sudan; A 2 years’ in-service master program using modern information and communication technology: a survey study. The data included is survey based, while we intended to indicate that it also is a description of a coming “before-after study”. As such data is not included in this publication, we agree with the referee in this matter. This point is corrected throughout the paper
- The conclusion in the abstract has been changed
- Information about in-service and hospital based training has been modified
- The objectives of the evaluation study have been clarified (methods section)
- We still want to mention the PPOS as this paper is a background paper describing all the data collections that will be referred to in any subsequent papers
- Ethical and privacy approvals and data analyses have been merged to one paragraph
- Many semicolons have been replaced by punctuation
- This paper gives the description of the use of ICT. The results obtained by ICT during the two year program will be analyzed and published using an observational study design
- Strength and limitations have been rephrased
- The Primafamed statement has been moved to discussion

Referee no 4 (AA)

In the sections « Results », the focus was more on the description of the project and health centers targeted by the project instead of the analysis on the different components particularly the training component for which the observational study was designed. The method used is more like a pre and post-test. However, more evidence from the observations must be added and analyzed to understand the pertinence and added value of the GFMP compared to the baseline. What is the intend of the article? If it is a descriptive analysis of the GFMP to show its pertinence (or progress), so this needs to be clearly established/supported by demonstrating that, for instance, students have a higher level of skill /attainment after their graduation than before, or that their achievement is greater than was predicted before the GFMP took place. Such measurements are known as baseline data.

We are very sorry that the intention of the paper was misunderstood by the referee, and we have now tried to improve the text about aims and objectives in a better manner. The title and description have been changed to a “survey study”, and it should be clear now that the main content is the description of GFMP with the addition of selected baseline data.

When I look at the few data (figure 1 and table 5) from the self-administrative questionnaire, there is only data related to the reasons of the students for choosing family medicine (apart the characteristics of the students) and no more evidence showing that the graduates has improved their skills in family medicine and thereafter the quality of health service delivery are improved. So, at least, it is important to clarify the figure 1, is it based on the pre-test or post-test? Because there is lack of information and clarity on the self-administrative questionnaire after graduation and less on the impact on the quality of service delivery in the targeted health centers.
There are no data from the end of the 2-years program concerning the first batch of student. This is outside the scope of the paper, but hopefully the content of future studies in due time when the 2-years data have been collected and analyzed.

In the discussion section, some limitations on the method and data should be considered. The issues of the self-reported data are not well discussed in the light of the data collected although the study mentioned it briefly. Care must be taken with any self-reported data. For instance, if the same (or similar design observation) questionnaire is self-administered before the in-service training and after the graduation (with the same variables?), with the pre-test providing the baseline measurement, care must be taken that the observation focuses on the desired outcomes stated in GFMP vision/objective.

Pre and post testing should only be used for a single activity (but nothing has been said on this). The self-administrative questionnaire as pre and post-tests is much less reliable for a whole programme because the time between the two tests allows other variables to come into play. For example, the students/graduates could give themselves a confidence “score” before and after the training, or could simply report that they were more confident now (in which case the baseline measurement is their own perception before the course). Low self-esteem can sometimes mean that a student will give consistently low (or high) scores for any form of self-assessment.

We agree that this is a major methodological issue and therefore strength and limitations paragraphs have been rephrased.

Referee no 5 (DIY)
The abstract defines the article as an observational study that shows the results of the GFMP’s implementation of a database line. However, in the whole text this information only represents a brief section.
We agree that the word observational study may mislead the reader a bit, and as suggested by Referee no 3 we have changed this throughout the paper, including the title

In the methods section, we found a wide and detailed explanation fully related to the observational study.
The reasons for this is that this paper represents also the “protocol” paper for coming papers where a series of results after the fulfillment of the 2-years program hopefully will be published. In that respect the GFMP study is an observational study and must be described as such. Thus we also hope that this paper will be a much referred one, as we know that there is a great interest in the structure and results of GFMP.

Most of the information stated in the results is focused on the objectives, curricula, and educational methods used in the GFMP. In order to publish this article, we suggest for you to reconsider it as a case study. Therefore, the main goal would be a systematic presentation of GFMP which will include the following parts, such as: training, in service, and information and communication. We recommend adding two more components of the data base line to the results section, which would be candidates and centers collected described.
We have decided not to change the concept and design of the paper. The first 3 referees fully seem to accept the design of the paper and are very positive to the way we have presented the GFMP. But we have changed the title from observational study to a survey study, which might reflect better understanding of the design of the manuscript.