Title: Experience as a doctor in the developing world: does it benefit the clinical and organisational performance in general practice?

Authors:

Pieter van den Hombergh (p.hombergh@chello.nl)
Niek de Wit (n.j.dewit@umcutrecht.nl)
Frank van Balen (vbalen@xs4all.nl)

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Author's response to reviews: see over
Dear editor

Reg: Our paper: "Experience as a doctor in the developing world; does it benefit the clinical and organisational performance in general practice"

Dear Emilie Aimé,

We sincerely thank you for the referee report on our manuscript ‘Experience as a doctor in the developing world; does it benefit the clinical and organisational performance in general practice’ and the chance to submit a revised version. Your reviewers made useful suggestions to improve the manuscript and we changed it in accordance with their remarks.

Please find attached a revised version of the manuscript, and a detailed report addressing each of the individual remarks. We think that the adaptations we made following your suggestions have improved the quality of our manuscript, and we do hope that this revised version will be acceptable for publication in BMC Family practice.

Yours sincerely,
On behalf of all authors,

Dr. Pieter van den Hombergh

cc.

- response to the suggestions of the reviewers
- revised manuscript
Reviewer 1: Stephen Gillam

1. The question posed by the authors is interesting, if loosely defined, and of importance for medical educationalists. The authors were seeking associations between the experience of working overseas and various clinical and organisational indicators in later practice.

Reply:
This was indeed the aim our study

2. However, there was little consideration of what that overseas experience consists in, what skills it is likely to generate and how those skills might benefit practice and which indicators will change as a result. I wasn’t clear quite what had guided their choice of items for the regression.

Reply:
We agree that we did not define the relevant skills and performance in detail. We wanted to be open minded in this explorative study, and consider possible correlations with the many relevant aspects of performance in general practice. It was quite possible that tropical doctors not only differ in clinical interests, treatment, prescription, referral, but also in service provision and practice organization. Our zero hypothesis was that we would not find a difference.

To explain this more clearly we added the following sentence in the introduction section:
For our exploration we tried to cover as many aspects of general practice as were available by using two datasets in two large groups of practices and GPs to answer our research question.

3. In considering the limited literature in this field, the authors make two salient observations.
Firstly, causality cannot be inferred from any observed associations. Secondly, qualitative studies exploring the benefits of this experience in more detail are needed. The idea of a prospective study is dismissed as “nonsensical because the choice of working in a developing country is likely to set you apart”. The possibility of selection bias is surely important in interpreting a study of this nature. Those drawn to work overseas may differ from their colleagues in all sorts of ways that indirectly affect their practice. (Presumably, for example, more “tropical doctors” belong to faith-based groups.) These temporary migrants “may be healthier” in other ways!

Reply:
In The Netherlands up to 6% of all doctors work overseas and even for medical students educational experience in developing countries is more and more common. The variety of reasons why students and medical professionals work overseas is enormous, but neither the background nor the consequences have been studied in detail.

In the study of Holcombe C. (Is experience overseas useful for the trainee surgeon? Tropical Doctor 1995;25 Suppl. 1:73-6. (Ref 2) No evidence was found that former tropical doctors were less consistent in their career as registrar. More registrars with tropical experience finished the training.

We took into consideration that – as a consequence- tropical doctors will on forehand differ in a number of ways. They are probably more adventurous, may have a different professional motivation and style of work. Faith is hardly an issue.

We have been clear about this limitation and described it in the discussion section. Yet evidence that they do not differ essentially is valuable information for those considering to outsource internships and part of the training abroad.
4. Am not a statistician but the multiple regression seemed straight-forward. Confidence intervals were provided. With so many indicators (26 of 51 ‘aspects’ or 385 indicators?), some significant associations were to be expected. None of these were particularly intuitive.

The large number of indicators (n=385) regarding the practice management may have increased the chance of finding accidentally significant differences.

Reply: We do agree with this observation, which we also already have addressed in our discussion.

5. While it easy to say this in retrospect and in the light of negative findings, an interview based study would have provided more interesting findings. It might have served as the preliminary to a more focused quantitative study of this nature.

Reply: Given the variety of reasons that medical professionals have to work overseas, and the spectrum of personal opinions that they develop about the impact of this experience on their professional career, we doubt that an interview study would provide a more consistent outcome. For that reason we chose to perform a qualitative study, using objective outcome measures based on clinical and practice performance.

6. The use of data based on visits nine years ago is surely questionable. Following on from the above, there may be legitimate, validated measures of clinical and organisational quality that these routine data sets fail to capture.

Reply: It is true that the data are not recent. However, we think that the conclusions about the association between working experience in developing countries and performance in the later career remain valid in time. In addition it was a unique opportunity to be able to perform this study, combining existing datasets of both clinical and organizational management aspects in general practice. It will not be possible to repeat this study, but we think that, the observations based on these data would not be much different if repeated today.

7. The authors seem to be scrabbling rather to generate conclusions from equivocal findings. The conclusions were unconvincing. To attribute the choice for overseas experience to probable “differences in personality” begs questions about what differences and how they might affect practice, questions that this study doesn’t begin to address. The final conclusion that “experience in a developing country is probably as valuable for later performance in general practice as experience at home” appears to have little basis in the study findings or previous discussion.

Reply: In our conclusion we deliberately focused on the initial hypothesis, and refrained from detailed speculations about the motivation and background of doctors working abroad, as this was not the subject of our study.

With the reviewer we share a certain disappointment regarding the negative outcome of the study. Yet, we think that the fact that we did find any relevant correlations in such a robust study — robust in both number of practices as well as aspects investigated —, is important news, worth to be published. Our study regards a scientific niche that is sparsely researched, and we think that also the negative outcome contributes to our understanding of performance of clinicians. We have rephrased the text about the attribution of the choice to work abroad in the abstract.
In conclusion, I would not ordinarily recommend this paper for publication. There is a case for drawing attention to the negative findings of this study, possibly in a letter or short report.

Level of interest: An article of limited interest

Quality of written English: Needs some language corrections before being Published

Reply
*It has been corrected by a native speaker, who works in the field of medicine.*

Statistical review: Yes, but I do not feel adequately qualified to assess the statistics.

**Reviewer 2 The editor**

1. Table 1: The terms ‘Study 1?’ and ‘Study 2?’ are introduced for the first time without definition.

Reply
*In the method section we explained that in this study we combined two data sets. Each set originated from a study with the same research questions, but with a different focus: the first study focussed on clinical performance, the second on practice organization. In the revised manuscript we have explained the two studies more clearly in the method section as well as in the results.*

2. It is not clear why there are 376 observations in study 1.

Reply
*For the first study we initially approached 517 regional general practitioners. Finally we were able to analyse the indicators of clinical performance of 472 general practitioners) from 401 practices. The reasons why we had to exclude 45 GP from the analysis are described in the result section*

3. The implementation of practice level analysis has not been explained.

Reply
*For most of the group practices, the insurance company registered indicators of clinical performance on practice level, and not on form individual doctors. As a consequence, we had to use average results of performance for the whole practice, instead of data from the individual doctors. The possible consequence of this ‘dilution’ is an underestimation of the effect. We have further explained this in both method and discussion section*

4. List size is more commonly expressed as patients per GP P values should be shown as ?=? rather than ?<?

Reply
*This has been changed in the table.*

5. Is the chi-square test valid for clustered data or for years of experience?
Reply

We do realize that in this analysis of clustered data the results of the chi square test maybe somewhat biased due to the close cooperation in group practices. However, as the number of results from group practices is relatively low we think the use of the chi square is acceptable in this case.

6. Table 2:
The figures are not clear, do you mean there are 3.1 antibiotic prescriptions per 1000 patients?

Reply

The prescription data are given in daily defined dosages (DDD), and reported as average number of DDD’s per 1000 patients for each of the two groups. We have added some more detailed information to the table.

7. The confidence intervals are not clearly presented, use the connector to and thus make clear whether the upper limit is positive or negative.

Reply

We have corrected this in the text and tables

8. Explain how the age-standardisation was performed

Reply

We have explained the standardization procedure in the method section

9. Table 3:
The analysis is not adequately described. Cronbach’s alpha has not been mentioned previously. The figures presented do not appear to be differences, although the legend states they are. How can logistic regression be used to obtain differences in scores?

Reply

All the scales used have been validated in the study with the VIP visitation method and published. In factor analysis these factors or dimensions have been established and their internal consistency calculated. Because each dimension consists of a number of indicators, the average score on the scale in a table is meaningless without mentioning the number of indicators per dimension. We decided to calculate the various scores on the scales in percentages to make it somewhat more meaningful for the reader. So 60% on a scale of 10 items is 6.0. The differences between the scores of GPs with and without tropical experience have been analysis in a logistic regression.

We have clarified this in the method section

10. Please also do the following:
(1) Shorten your abstract so that it does not exceed 350 words and is structured into separate sections: Background, the context and purpose of the study; Methods, how the study was performed and statistical tests used; Results, the main findings; Conclusions, brief summary and potential implications.

We shortened it to less than 319 words

(2) Include a 'Competing interests' section between the Conclusions and Authors' contributions. If there are none to declare, please write 'The authors declare that they have no competing interests'.
(3) Include an Authors' contributions section before the Acknowledgements and Reference list. For the Authors' contributions we suggest the following kind of format (please use initials to refer to each author's contribution): AB carried out the molecular genetic studies, participated in the sequence alignment and drafted the manuscript. JY carried out the immunoassays. MT participated in the sequence alignment. ES participated in the design of the study and performed the statistical analysis. FG conceived of the study, and participated in its design and coordination. All authors read and approved the final manuscript.