Author's response to reviews

Title: A controlled trial of mental illness related stigma training for medical students.

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Author's response to reviews: see over
Dr Nisha Dogra  
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10 June 2011  

Dear Dr. Dogra,  

RE: A controlled trial of mental illness related stigma training for medical students (MS 1587831984438566).  

Thank you for your e-mail dated May 11, 2011.  

Please find our responses to the very constructive comments received from the reviewers, which refer to our edits highlighted in yellow in the attached, revised paper. Please also note that all authors have read the revised manuscript and we have added an additional 4 references. Furthermore, we have made the paper clearer and more concise which included simplifying Figure 1 and refining sections of the manuscript highlighted in green.  

Referee 1  

Initial comment. The ATP (attitudes to psychiatry) questionnaire has been not cited as background, there is considerable literature in this area.  

Our initial response. Just as there are scales assessing medical students’ attitudes towards people with mental illness before and after a psychiatric clerkship, scales assessing medical students ‘attitudes towards specialising in the field of psychiatry have been developed. This is because, there is stigma by association; that is, because the field of psychiatry is responsible for treating people with mental illness, the field itself also becomes stigmatised as a field of medicine and as a less favoured potential career choice. The Attitudes towards Psychiatry (ATP-30) scale has been used in previous medical student research, however changes in attitudes occurred in both directions questioning its reliability over time. A significantly negative change was detected in attitudes of first year medical students who did not have any psychiatry training (anatomy course) and for occupational therapy students who were exposed to psychiatry in their lectures. There was a significantly positive change in attitudes towards psychiatry among third and fourth-year medical students who were exposed to clinical work with patients who had a mental illness. Another study showed no significant differences between the pre- and post-attitudinal scores on the ATP-30 with regards to the sixth-year medical students who completed the practical psychiatry training. Given this and that the primary focus of this study was medical students’ attitudes towards people with mental illness rather than Psychiatry; we chose not to use this scale.
Further comment. I quite understand that you chose not to use this scale. Below are three statements from which relate to your study:

1. There is very little that psychiatrists can do for their patients
2. If we listen to them, psychiatric patients are just as human as other people
3. Psychiatric patients are often more interesting to work with than other patients

The issue from your study is whether didactic teaching and role play can change knowledge attitudes and behaviour. The ATP literature might simply show that educational initiatives in psychiatry may change attitudes. The fact that the scale can work both ways is interesting. Of course it is not essential that you cite this work in the background but it is relevant.

Our further response. Thank you for this comment. We have now added the following in the Background section of our paper.

However it must be emphasized that the ATP-30 does have relevant items that could be used to determine whether didactic teaching and role play can change knowledge attitudes and behaviour.

Initial comment. The authors report a 3 arm non randomized controlled trial with A: controlled arm, B intervention 1 and C: intervention 1+2. It must be noted there is no prior power calculation. The authors do not define a priori, what would be an acceptable change from the intervention. What is the meaning of a potential change in attitude / knowledge scores?

Our initial response. This has now been added to the Methodology section.

We felt that meaningful change in knowledge and attitudes corresponds to at least 10% change in the total mean score although this is somewhat arbitrary given the nature of this study which is exploratory. In order to detect a 10% change in the total MICA scale scores before and after the intervention with 80% power using a two-tailed test, a minimum of 31 students would be required at an alpha level of 0.01. Although we achieved a 50 and 34 students in the CC and EC1 respectively, we did not detect meaningful change in terms of attitudes.

Further comment. This is an entirely appropriate change and helpful description for the methodology. It would have been extremely valuable to have this in the first version.

Our further response. Thank you for your comment. We apologize that this was not available in the first version of the paper. This has now been added to the Results section.

Although we achieved 50 and 34 students in the CC and EC1 respectively, we did not detect significant change in terms of attitudes. Regarding knowledge, the Knowledge Quiz was developed solely for the purpose of this study; previous data had not been collected in order to compute a power calculation. A post-hoc power calculation however shows that our study
had satisfactory power as we had 80% power to detect a 15.7% change in Knowledge Quiz scores using a two-tailed test in a sample size of 34 students at an alpha level of 0.01.

**Initial comment.** Role play: does role play behaviour equate to behaviour?

**Our initial response.** Role play does not necessarily equate to behaviour however in the realm of medical education, role-play is used as a teaching method that is valued by students in the acquisition of communication skills. Furthermore, role play promotes active learning.

**Further comment.** Citation here would be useful

**Our further response.** Thank you for your comment. We have now added the following citation:


**Initial comment.** Only 110 of 408 students in the medical year were included in data analysis. How representative were they. Could those who completed everything be the ones who were most likely to do psychiatry?

**Our initial response.** This has now been added to the Results section: There was a significant difference found between the medical school psychiatry assessment grades for students who were allocated to the EC2 condition versus those who did not participate at all, 4.4 vs. 4.1, p = 0.04. With regards to gender, when comparing the proportion of males and females in those who participated in the study and those who did not, a significant difference was detected in the group overall $\chi^2_{12} = 6.9$, $(p = 0.008)$ as well as EC2 $\chi^2_{12} = 9.2$, $(p = 0.002)$.

When comparing the overall study sample, there were no significant differences between males and females with regards to their psychiatry assessment grades. Those students who participated in the study also had high psychiatry assessment grades although there were no statistical differences between males and females in those who did participate overall.

It cannot, however, be determined whether a real difference between males’ and females’ psychiatry assessment grades existed in the trial conditions, CC EC1 and EC2 given p-values which were near 0.05, hence these results should be interpreted with caution.

There were significant differences however in those medical students who participated in the study overall compared to those that did not. This however was expected as participants who would be more interested in the topic of mental illness related stigma are likely to have participated and thus likely to take more of an interest in psychiatry thereby performing better at it overall.
**Further comment.** It is not essential to note whether the male or female participants had higher grades. What appears to be the case here is that participants were not the same as non-participants.

**Our further response.** Thank you for your comment. We have removed the part about male and female grades in the Results section and emphasized that the participants were not the same as non-participants by stating the following in the Results section:

There was a significant difference between the grades, with the group of medical students who participated in the study having higher psychiatry assessment scores than non-participants, 4.3 vs. 4.1, p = 0.008. This shows that those medical students who chose to take part in the study either by way of completing baseline instruments, or participating in the intervention conditions had medical school psychiatry assessment grades that were significantly higher than those students who did not participate.

And the following in the Discussion section:

Regarding how representative the sample recruited was to the rest of the students, there were significant differences in those medical students who participated in the study compared to those that did not. This however was expected as participants who would be more interested in the topic of mental illness related stigma are likely to have participated and thus likely to take more of an interest in psychiatry thereby performing better at it overall.

**Referee 2**

**Initial comment.** The authors acknowledge several methodological limitations to their study. For further clarification, they should also include a statement that their results may be biased given that students involved were not a representative sample.

**Our response.** Thank you for your comment. We added the following paragraph to the limitations of the study:

It must be noted that our results may be biased given the students were not a representative sample. Participants were different than non-participants which could have led to biased results. For example, we may have not seen a change in attitudes because participants were already inclined to have positive attitudes. Further, the change in knowledge may have been detected because participants were interested in the material. It is also important to note that the results found may also be due to the intervention being very short in duration as the lecture was one hour and the role-play training was 30 minutes while for medical students, a longer intervention may be required however this would need to be determined in a larger, representative sample.
We have also added the following to the conclusion section of the Abstract:

The study next needs to be replicated with larger, representative samples using appropriate evaluation instruments. More intensive training for medical students may also be required.

**Editorial Requests**

Ethics - Experimental research that is reported in the manuscript must have been performed with the approval of an appropriate ethics committee. Research carried out on humans must be in compliance with the Helsinki Declaration (http://www.wma.net/en/30publications/10policies/b3/index.html), and any experimental research on animals must follow internationally recognized guidelines. A statement to this effect must appear in the Methods section of the manuscript, including the name of the body which gave approval, with a reference number where appropriate.

Our response. Please note we have added an ethics statement in the Methods section which states the following:

This project was approved by the Local Research Ethics Committee of Bexley and Greenwich (06/Q0707/56) for the National Health Service in the UK.

Please also ensure that your revised manuscript conforms to the journal style (http://www.biomedcentral.com/info/ifora/medicine_journals). It is important that your files are correctly formatted.

Our response. Please note we have formatted the revised manuscript according to the journal style.

We sincerely hope that we have fully responded to all of the valuable points raised by the reviewers.

Sincerely,

Aliya Kassam, PhD (Corresponding Author)