Author's response to reviews

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

Authors:

   Aliya Kassam (akassam@mentalhealthcommission.ca)
   Nick Glozier (nglozier@usyd.edu.au)
   Morven Leese (morven.leese@kcl.ac.uk)
   Joanne Loughran (Jo.Loughran@rethink.org)
   Graham Thornicroft (graham.thornicroft@kcl.ac.uk)

Version: 2 Date: 16 March 2011

Author's response to reviews: see over
15 March 2011

Dr Nisha Dogra, Editorial Team Member
BMC Medical Education

Dear Dr. Dogra,

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

Thank you for your e-mail dated January 17, 2011.

Please find our responses to the reviewer’s comments below.

- **Abstract**
  - In the results section “No such difference was determined with attitudes or for behaviour. Knowledge and attitudes were responsive to the training”. This is unclear: are attitudes responsive to training or was no difference observed.

  The sentence *Knowledge and attitudes were responsive to the training* has now been removed.

- **Introduction**
  - “Problems with lack of knowledge or even misinformation constitute Ignorance”. Possibly re word.

  This now reads: *Problems pertaining to a lack of knowledge constitutes ignorance.*

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

  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.

- **Methodology**
  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?

  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.

  This has now been added to the Results section:

  Although we achieved a 50 and 34 students in the CC and EC1 respectively, we did not detect meaningful 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 75% power to detect a 13.6% change in Knowledge Quiz scores using a two-tailed test in a sample size of 34 students at an alpha level of 0.01.

- **Recruitment**
  - It is unclear how students were recruited. Were they asked to take part? Were those who may have been particularly favourable to psychiatry more likely to have taken part? The authors should discuss how much the recruited group were representative of their medical year.

  This has now been added to the Recruitment section:

  Students were recruited by e-mail. Each student was sent an email introducing the study and what it would entail if they chose to participate. A brief presentation was also given to students at the start of the two-week course telling them about the study. Students were told that their
participation in the study was entirely voluntary and their grades would not be affected in any way if they chose not to participate. Students who chose to participate were told that their responses would be kept anonymous and would not affect their grades or course work.

Data was obtained from the registrar of the University to which the medical school belonged and the Psychiatry assessment grades from the medical school itself as well as the gender of participants and non-participants were compared. Global scores of the medical school psychiatry assessments and gender of the participants and non-participants of medical students from the study population were used to determine the representativeness of the sample.

• **Assessment**

  o “The wording of the scale was reviewed by key researchers in the field of stigma and mental illness.” What does this mean?

The following has been added to clarify the above: *Items generated for the Knowledge Quiz were reviewed by key researchers in the field of stigma and mental illness such as professors, psychiatrists and researchers who research stigma and mental health.*

  o Role play: does role play behaviour equate to behaviour?

*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.*

• **Results**

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?

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 $\chi^2 = 6.9$, (p = 0.008) as well as EC2 $\chi^2 = 9.2$, (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.

- **Implications**

“Furthermore, there may be a dose-response relationship when targeting changes in knowledge, attitudes and behaviour in mental illness related stigma training and that it would require more intensive training to change behaviour. Specifically, it shows that for knowledge change, an intervention may require a factual component (targeting ignorance) and personal testimonies (targeting prejudice) component however for attitude change an intervention may require factual information, personal testimonies and role-play training (targeting discrimination). If this pattern follows for behaviour then to change behaviour in terms of mental illness related stigma an intervention may require a knowledge, attitude, behavioural component and in addition, another component.”

I don’t think the work substantiates this point. All that seems to be demonstrated is that if your teach people more facts they will learn more (or certainly keen students will). There can be no assumption that behavioural change may be affected through any brief intervention.

This paragraph has now been changed to:

*This study did not show meaningful change in attitudes towards people with mental illness before and after mental illness related stigma interventions. This study demonstrated that teaching students about stigma and mental illness leads to more knowledge especially if students are interested in the subject matter. However for this particular study, there is no evidence presented that stigma initiatives can demonstrate anything other than an improvement in knowledge. It may well be the case that in the future the EC1 and EC2 groups will have better attitudes and behave better. However this cannot be determined based on the assessments suggested in this study. Future research needs to examine whether a dose-response relationship when targeting changes in knowledge, attitudes and behaviour in mental illness related stigma training actually exists hence evaluative tools that are able to demonstrate this are required.*

“This study has shown that both the intervention and evaluation components of mental illness related stigma initiatives might include all three domains of knowledge, attitudes and behaviour since the relationship of these domains in mental health promotion and medical education warrants further research”

I am not sure this is correct. There is no evidence presented that stigma initiatives can demonstrate anything other than an improvement in knowledge. It may well be the case that in
the future the EC1 and EC2 groups will have better attitudes and behave better. However we simply don’t know this based on the assessments suggested.

This paragraph has now been changed to:

*Furthermore it is important to determine whether there is a need for more intensive training to change behaviour and whether for knowledge change, an intervention would require a factual component (targeting ignorance) and personal testimonies (targeting prejudice) component and for attitude change an intervention may require factual information, personal testimonies and role-play training (targeting discrimination). If this pattern follows for behaviour then to change behaviour in terms of mental illness related stigma an intervention may require a knowledge, attitude, behavioural component and in addition, another component.*

Similar educational initiatives already exist in other curricula in UK medical schools. They may have an effect on attitudes and behaviour but this is difficult to measure. Robust work in this area would be of great value in enhancing medical education.

This paragraph has now been added to the paper:

*Similar educational initiatives already exist in other curricula in UK medical schools however these may be more related to clinical clerkships or rotations instead of people with mental illness sharing their personal testimony of recovery and the role of the health care system.*

Editorial Requests

"The authors do need to demonstrate awareness that this might be covered in medical curricula already."

--------------------

Please address all the following in your revised manuscript:

- **Abstract**

The Background of abstract needs to cover the aims of the study:

[http://www.biomedcentral.com/bmcmededuc/ifora/#abstract](http://www.biomedcentral.com/bmcmededuc/ifora/#abstract)

*The abstract now includes aims in the background section.*

- **Ethics**

Please include a statement of ethical approval.
I don’t have the original letter however I have a final report submitted to the ethics committee describing the termination of the study.

• Competing Interests

Please include a Competing Interests section:

http://www.biomedcentral.com/bmcmededuc/ifora/#interests

Included.

• Authors Contributions

Please include an Authors Contributions section:

http://www.biomedcentral.com/bmcmededuc/ifora/#authorscon

Included.

• Acknowledgements

Please include an Acknowledgements section:

http://www.biomedcentral.com/bmcmededuc/ifora/#acknowledgements

Included.

"Time to change" Program

Please clarify your involvement in this program.

Aliya Kassam and Nick Glozier are not involved in the Time to Change program. Authors Morven Leese Joanne Loughran and Graham Thornicroft are involved in the Time to Change Program. Please note that I have removed the sentence in the paper referring to the Time to Change Program.