Reviewer's report

Title: Student tutors for hands-on training in focused emergency echocardiography - a randomized controlled trial

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Reviewer: John Chambers

Reviewer's report:

This study compares the increase in scores for identifying echocardiographic structures as taught by trained students vs expert echocardiographers. This is a highly topical area and the study is interesting. I have a number of questions and suggestions:

1. The type of echocardiogram being taught was unclear. Much of the description was about basic studies (FATE and FEEL) but the authors discuss multiple views and measurements including ranges for grading valve disease which is standard echocardiography. Is their echocardiogram designed to identify or exclude critical disease e.g. inactive LV or tamponade or is it something else?

2. There are three controversial steps here, one the basic echo itself, the second teaching this to students and the third using student trainers. I personally think we have enough information to justify the first (although others do not) and the authors give a good background in support of the concept. I also agree that medical students will probably be using echo as routine in the near future although this is still a new concept in Europe. There is a study by Joe Kisslo from Duke University that would be relevant to this discussion. But finally what is the evidence that student trainers are valid and accurate. I felt that this needed expansion.

3. In 2a of hands-on training the views were not clear. Which apical views?

4. What was being rated using the Likert scale? Given that the medical students were novices they would not be able to assess the accuracy of their tutors.

5. The students were tested on recognising structures and not on getting views. This was not therefore a study of hands-on ability. Furthermore a student with a good echo window is not a clinically realistic test model.

Level of interest: An article of importance in its field

Quality of written English: Acceptable

Statistical review: No, the manuscript does not need to be seen by a statistician.

Declaration of competing interests:
I declare that I have no competing interests