Reviewer's report

Title: Role of SimMan in teaching clinical skills to preclinical medical students

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Reviewer: Max Field

Reviewer's report:

This cross over pilot study purports to show that medical students benefit from clinical skills teaching of the respiratory (RS) and cardiovascular systems (CVS) using SimMan simulator.

There are a few issues that you as BMC Medical Education editor may wish to consider

a) the student numbers are small (n= 2 groups of 12) and while this is a pilot study it would be of interest to know why this number were used and whether a power calculation was undertaken to get to these figures.

b) the students in this analysis are ‘fast track’ entrants to a four year course and are therefore not standard medical students - extrapolation from one group to another might be inappropriate and should probably be avoided.

c) the students in the study are not learning naive with regard to RS and CVS teaching - indeed the paper states that all have received teaching covering the generic clinical skills. It is assumed that attendance in initial training has been 100% and that no student in the study groups is learning naive. It is not completely clear exactly what generic training does cover (but it does look similar to the training offered in the cross over study) and perhaps this should be explained in more detail.

d) if all the students have been taught the generic clinical skills just on one another, then the results could be read in a different manner. If group A are just getting what they have already received then the first part of the analysis shows that repetition fails to improve their clinical skills knowledge using mid point scores. Having had two (presumably similar teaching sessions) the novel clinical teaching (detecting abnormal clinical signs) delivered in the third teaching session with SimMan improves the end of study scores for group A.

However students in group B who have already had generic training and get the new form of clinical signs teaching with SimMan do statistically better and this does not improve when repeating initial training that was given before the study commenced.

If this study is read this way, then the results of the second part of the study might not be as relevant and might reflect the effect that initial training has on the two groups of selected ‘fast track’ students’ exposure to the SimMan. Could the effect be the result of the novelty of seeing clinical signs in SimMan after initial
training of just examining one another? This might be addressed in more detail in the analysis and discussion.

**Level of interest:** An article whose findings are important to those with closely related research interests

**Quality of written English:** Acceptable

**Statistical review:** Yes, and I have assessed the statistics in my report.

**Declaration of competing interests:**

I have no known competing interests