Reviewer's report

Title: Basic life support is effectively taught in groups of three, five and eight students. A prospective, randomized and double-blind study.

Version: 2
Date: 26 January 2014
Reviewer: Koenraad Monsieurs

Reviewer's report:

Major Compulsory Revisions

1. The authors have studied 4th year medicine students that were previously trained in CPR. It is evident from Table 2 that the objective CPR quality before the intervention was already good in all groups (with the exception of a lower compression depth in the X5 group). The authors admit that in the discussion, and they write in the limitations that these objective parameters are important and deserve more attention. I agree. Therefore, I see no proof that the intervention has had ANY effect on the objective parameters. That makes any further conclusion of differences between groups after training irrelevant. I therefore would challenge the conclusions that “group size does not influence the teaching success of BLS skills “ and that “it is reasonable to teach CPR skills in larger groups”.

2. The authors report mean values of CPR quality in groups. If I understand correctly, these mean values are composed of mean values of individual performances. That is not a good presentation of the data. It would be much better to define what constitutes a pass score for the objective measurements, and to report the proportion of students in each group that reached the pass score. It may well be that this way of presenting the data reveals new insights in the differences before and after training.

Minor Essential Revisions

1. It is unclear in the abstract that video recording was used. It is also unclear in the abstract what is meant by “teaching parameters”. I would also like to see in the abstract how data are presented (means of means, but I would recommend proportions of students passing a predefined level). The conclusions of the abstract are unclear. As I read the results, my take home message was that larger groups have less hands-on time and lower self-confidence. I would be careful with the conclusion that larger groups did equally well compared to small groups on the technical skills after training, because most students appeared to be already proficient before the training.

2. I would suggest adding to the abstract that the duration of the training was adapted to group size (7 minutes training time per student). It is essential to the methodology. The fact that these 7 minutes were better used in the smaller groups, is an important finding.
3. According to the methods, a group of 8 students would allow for a total training duration of 56 minutes. You showed that effective individual hands-on time was only 2 minutes in the groups of 8 students (for good reasons: more talking and maybe a sense of pressure). Given the fact that I have not seen proof in your data that the training actually resulted in an improvement of skills, I would conclude that the remaining 54 minutes were largely unproductive. I therefore have difficulty accepting the conclusion that larger groups are a good investment.

Discretionary Revisions

1. Please use “assessment” in stead of “diagnostics throughout the manuscript.
2. Please number pages when submitting a manuscript.
3. Under Outcomes: spent (spelling error)
4. Under statistical analysis: statistically significant (spelling error)
5. In the abstract: chest compressions (no hyphen)
6. In the abstract: pass levels (no hyphen)
7. Table 1: proportion of males is redundant

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 declare that I have no competing interests.