Reviewer's report

Title: Impact of a task focusing strategy on perceived stress levels and performance during a simulated cardiopulmonary resuscitation: A randomized controlled trial

Version: 2 Date: 28 January 2013

Reviewer: A Nishisaki

Reviewer's report:

This manuscript is overall well written and introduction and discussion section are quite informative to readers. The authors evaluated an effectiveness of their intervention to reduce stress during CPR. Their intervention included a specific strategy: focusing on basic conditions and immediate actions, as well as educating learners about emotional stress and its effect on performance during CPR.

Authors measured the effect by 1. Self-reported stress scale during simulated CPR, 2. Quality of CPR (time elapsed, hands-on time), and 3. Number of leadership statements.

Although the self-reported stress scale improved by this intervention, no CPR performance was different between two groups.

The biggest challenge of this study design is the ‘Hawthorne effect’. If one of the study group was made aware of the stress level as an intervention, and then the investigators asked them about the stress level at the end of the simulation, it is likely that group will respond to the question differently. Therefore measurement on actual skill performance is more valid in this setting. I suggest authors comment on this ‘Hawthorne effect’.

Alternatively authors could perform comparative effective study—comparing a task-focusing strategy to other intervention while both teams are made aware of the CPR stress.

It can be certainly argued that the stress level may be attenuating the quality of CPR performance. However the current study only showed the association and not necessarily causation.

As a result, this manuscript generates more question and hypothesis. Further educational studies with appropriate designs will provide more insights between CPR stress and outcomes, and the effectiveness of stress intervention.

Major Compulsory Revision

1. Authors commented on intrusive thoughts. This is a very important aspect. (no action needed)
2. Authors appropriately performed intention-to-treat analysis. In real life, this is what we are going to see... 16 out of 62 (25%) could not remember the brief instruction. Is this drop out group different from others? Were they too stressed to follow relatively simple guidance? If so, in the future other interventions such as cognitive aids may be helpful.

3. The biggest challenge of this study design is the ‘Hawthorne effect’. If one of the study group was made aware of the stress level as an intervention, and then the investigators asked them about the stress level at the end of the simulation, it is likely that group will respond to the question differently. Therefore measurement on actual skill performance is more valid in this setting. I suggest authors comment on this ‘Hawthorne effect’.

4. Alternatively authors could perform comparative effective study—comparing a task-focusing strategy to other intervention while both teams are made aware of the CPR stress.

5. In Discussion section, the author’s comments regarding the task-focusing strategy and leadership comments are intriguing. What the intervention would likely to be when a combination of stress-related and leadership related instructions is developed? With this intervention and appropriate outcome measures (not self-perception but clinical performance in simulation) will be the next study design.

6. This ‘task-focusing strategy’ probably requires learning. The one-time brief intervention was not enough to improve the performance. Future study probably should train learners to master this skill, then evaluate the effect in a different clinical context. If this is a easily trainable skill, the clinical impact is potentially large. Any comments for the training to gain this skill?

- Minor Essential Revisions

1. In the title, we don’t need BS 1330978 included here.

2. In Abstract, “Hands-on time was higher”.. it should say “Hands-on time was longer”.

3. Authors appropriately presented 95% CI. I appreciate it.

4. In Statistical analysis, “College Station, Tex” should be College Station, TX”.

5. In Introduction, “brief task-focusing strategy”. How brief?

Level of interest

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- An article of importance in its field

Quality of written English

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- Acceptable

Statistical review

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Is it essential that this manuscript be seen by an expert statistician?
- No, the manuscript does not need to be seen by a statistician. They appropriately analyzed the result.

Declaration of competing interests

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When completing your declaration, please consider the following questions:
- Have you in the past five years received reimbursements, fees, funding, or salary from an organisation that may in any way gain or lose financially from the publication of this paper, either now or in the future? NO

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What next?

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Based on your assessment of the validity of the manuscript, what do you advise should be the next step?
- Unable to decide on acceptance or rejection until the authors have responded to the major compulsory revisions