Reviewer's report

Title: Combined Analysis of the Non-Pneumatic Anti-Shock Garment on Mortality from Hypovolemic Shock Secondary to Obstetric Hemorrhage

Version: 2 Date: 15 July 2013

Reviewer: Barbara Scavone

Reviewer's report:

General comments:
This is an interesting meta-analysis of the use of a non-pneumatic anti-shock garment on estimated blood loss and mortality from obstetric hemorrhage. As with any meta-analysis, it is limited by the quality of the studies included; I agree with your call for more robust investigations, and would repeat that call in the final paragraph of the manuscript. In general, the analysis is well-done, the writing is clear, and it is an important report as it seems to indicate that use of this device may decrease maternal mortality from hemorrhage.

Specific comments:
1. Throughout the manuscript, I do not like the term “quasi-experimental” since as a reader I am not sure what it means. If you mean that the methods employed historical controls then just say that. Or if you mean there was no randomization then say that. I recommend substituting this phrase with a more precise one throughout the paper.

Background:
2. In third paragraph of this section you open saying “Previous studies...have shown significantly reduced...” (emphasis mine) but then you go on to say the studies lacked statistical power. If they lacked power then I would not use the word “significantly” in the first sentence. In fact, if those studies had demonstrated a statistically significant difference, why would you have done the meta-analysis at all?

Methods: No comments

Results:
3. Do you have more details as to the estimation of blood loss? It is notoriously inaccurate. For the one study in which calibrated drapes were not used, what was used? Did any of the groups weigh pads and bedding?

Discussion:
4. Regarding strengths and weaknesses of this meta-analysis, you state that it is a strength that all of the studies come from the same research group, and indeed, that is a strength in the ways you have listed. Unfortunately it is also a weakness because small biases in study design or implementation have the
potential to become exaggerated across several studies. I recommend expanding your discussion (1st full paragraph of page 9) to include this idea.

5. Similarly, you list the inclusion of non-peer-reviewed trials as a strength, and it is in that it allows for higher numbers; however, it is also a weakness in that you included results not subject to the important peer-review process, and thus not as valid. I recommend expanding the discussion (1st full paragraph of page 9) to include this thought.

6. Lastly, you should include as a weakness the well-known inaccuracy of estimating blood loss. This is a much less important outcome than mortality of course, but since you do report effect on estimated blood loss, you should include the inherent weaknesses of measuring it.

Conclusions:
7. I would add a sentence that echoes the one in your abstract calling for more robust methodology in future studies.

Tables/Figures:
8. Tables 1 and 2 seem to be missing the Maknikar 2012 data.
9. Table 3 is not referred to in the text. Instead, the Sensitivity Analyses paragraph includes a referral to Table 2 again (middle paragraph page 7).
10. I was unable to access Figure 2, referred to in the Results section.

Signed, Barbara M. Scavone, MD

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

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.