Reviewer’s report

Title: Early warning scoring systems versus standard observations charts for wards in South Africa: a cluster randomised controlled trial

Version: 1 Date: 29 September 2014

Reviewer: Jocelyn Gravel

Reviewer’s report:

Thank you for giving me the opportunity to review this cluster randomised trial aiming to evaluate the impact of a modified early warning system used by nurses on surgical wards.

Primarily, I would like to congratulate the authors to conduct a RCT to evaluate such an important topic. As mentioned in the introduction, most studies evaluating implementation of new standardized procedure use a before-and-after design or other observational design. In general, this is a well construct study. This study shows that the MEWS improves some vital signs measurements. The fact that limits the most the importance of the study is the absence of an impact on response to the abnormal vital signs.

Major Compulsory Revisions

1. Three primary outcome is too much. I would recommend to revise this and exclude the nurse knowledge as a primary outcome. To me, this is more of a quality control measure to insure that nurses randomised to the intervention received the intervention. While I agree that it is important to insure that nurses received a proper training, I do not think this should the primary (most important) outcome of the study.

Minor Essential Revisions

1. Abstract
   There should be a designation of the primary outcome and information about statistical analysis in the method section of the abstract.

Methods:

2. In the sampling section, the authors should mention whether nurses worked only on a single ward or if it was possible to have a nurse working on different ward. This later situation could contaminate the intervention.

3. The authors should justify their exclusion criteria. For example, why exclude patients who died or those who were transferred to ICU in the first 8 hours? They may have die because of improper management related to the absence of MEWS

4. The sample size calculation is suboptimal. Previous studies reported
respiratory rate monitoring of 40% while it was 2% in preparatory work. The sample size was calculated using the 2% but it would be much larger using 40%. Also, as mentioned, the effect of clustering was not taking into account in the sample size calculation. This effect would also increase the sample size.

5. What was the delay between the pre and post knowledge testing?

6. The author showed a difference in vital signs recording post intervention but it is possible that there was a difference before. The author could look at a sample of charts before intervention in both group to demonstrate that there was no difference before. They did it to compare nurses’ knowledge, they could do it for vital signs.

7. The fact that the nurses failed to report deranged physical parameter is worrisome. However, it looks like 87.7% (intervention) and 96.5% (control) of the patients had deranged parameters. This is very high and makes may doubt about the specificity of the MEWS to identify “at risk” patients. This should be commented in the discussion

Discussion

7. Benefits of intervention. I do not agree with the authors claiming the importance of the training program. This study showed an improvement of the reporting of vital signs but no impact on reports. My understanding was that the training program was to improve nurses’ knowledge of physiology so they can react faster to abnormal vital signs. My understanding of the results is that the MEWS improves vital signs measurement but as no impact on reporting. This later may be related to the training.

Tables and figure

8. Tables 3 and 4 could be simplified by excluding the following row: RR not recorded, HR not recorded, Oxygen sat not recorded, etc…

Discretionary Revisions

1. Results

An improvement from 10/23 to 14/23 seems small following training in the intervention group. Was there any explanation for such a low score following training?

Level of interest: An article of importance in its field

Quality of written English: Acceptable

Statistical review: Yes, but I do not feel adequately qualified to assess the statistics.

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