Reviewer's report

Title: Intelligent Structured Intermittent Auscultation (ISIA): Evaluation of a decision-making framework for fetal monitoring of low-risk women

Version: 1
Date: 18 March 2014

Reviewer: Judith McAra-Couper

Reviewer's report:

Discretionary Revisions (which are recommendations for improvement but which the author can choose to ignore)

1. Is the question posed by the authors well defined?
The focus of the study is clear - to encourage use of intermittent auscultation and the reasons for doing this are also clearly stated. The background is clear sets out the case for why the research is important and places it within the wider discussion about CTGs and fetal monitoring including intermittent Auscultation.

2. Are the methods appropriate and well described?
The methods are appropriate for an evaluation of a tool/ intervention with a pre and post test.

Phase 1. The pre intervention phase is well described the baselines identified and appropriate and well recognised criteria used for inclusion and exclusion. Appropriate sample size calculator used to determine the sample size

Phase 2 intervention appears to be appropriate and numbers while small – when taking into account the area that the study was carried out in appear to have been sufficient to carry out the intervention and show its significance or otherwise. Direct and indirect intervention is interesting in that opportunistic and prompts also reinforced the direct intervention or acted as a reminder or may even have influenced practice of those not directly in study.

The introduction and use of ISIA is very clear and helped by the frameworks for admission assessment and ongoing assessment - the frameworks provide real clarity of how this is linked to and applied in practice

Phase 3 post intervention again seems appropriate whereby the same methods are used and same calculation of sample size used.

It would be interesting if it had been possible to know the difference between those who directly received the intervention and those in the unit who did not.

Following the intervention relative increase of 12% in use of IA decrease in 13.7% in use of CTG

The other measures such as pulse and fetal heart rate during fetal movement also significantly increasing also of interest – increase in regularity of listening to fetal heart also provides very real food for thought. It would be interesting to see this explored further possible in future publications ??
Would have been interesting to know if any reasons known or surmised regarding difference in the admission rates to SCBU/NICU

3. Are the data sound?
The data appears sound both pre, intervention and post and the claims regarding significance

4. Does the manuscript adhere to the relevant standards for reporting and data deposition?
Ethics approval was obtained and so obtaining and using data appears to be standard. Relevant standards for reporting appear to have been adhered to.

5. Are the discussion and conclusions well balanced and adequately supported by the data?
The discussion in part is descriptive and is well supported by the data but is mainly about what was done rather than enlarging on what was done and placing it alongside other work that may inform or otherwise this study – it feels like a lost opportunity for what is an important piece of research.
I also think the conclusion could be stronger – I think the significance of this tool is its structured approach and that midwives and health professionals should be challenged to see IA in this way and to view it in the much more holistic way than the article suggests.

6. Are limitations of the work clearly stated?
Yes they are

7. Do the authors clearly acknowledge any work upon which they are building, both published and unpublished?
Yes the work which informs the practice at the present time is acknowledged and in particular the work around CTG and IA which has been build on, challenged and brought in to a new light.

8. Do the title and abstract accurately convey what has been found?
Yes they do clearly
The title says what the study is about and the abstract captures the study succinctly and accurately

8. Is the writing acceptable?
The writing is clear, concise and easily understood.

**Level of interest:** An article of outstanding merit and interest in its field

**Quality of written English:** Acceptable

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

I declare I have no competing interests however I was marker for this PHD but I did not receive any financial reward for that and have no ongoing relationship with the institution.