Author’s response to reviews

Title: Adherence to Swedish national pregnancy dating guidelines and management of discrepancies between pregnancy dating methods: a survey study

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Author’s response to reviews:

We would like to thank the reviewer for the constructive comments. Please see below our responses and the changes that have been implemented in the manuscript.

This manuscript addresses the important questions of a) how effective national guidelines are in terms of adherence to the recommendations among the targeted clinics, b) regarding the existence of informal guidelines, and c) the perceived needs of clarifications in future revised guidelines. An appropriate survey design using combined quantitative and qualitative data yielded a sample that allows for generalization in the Swedish setting. The authors have identified a deviation from the guidelines regarding pregnancy dating by ultrasound in week 11-14, and describe a rather great variation of strategies concerning the management of pregnancies with conflicting estimations of date of birth (ultrasound-based versus LMP-based). They call for regular updates and improved implementation of the guidelines.

Some questions/critics:

1. Background line 111: this is hardly an example of the international recommendations mentioned on line 109.

Response: We would like to thank the reviewer for pointing this out. We have now attentively gone through the reference list, and confirm that these are now included as originally intended.
2. Background: The call for improved implementation of guidelines requires further information on how the original implementation was carried out. That could be mentioned briefly in the Background section.

Response: Further information has been added in the background section, as follows:

“In 2010, a workshop committee installed by initiative of the ultrasound section of the Swedish Association for Obstetricians and Gynecologists published fetal biometry and pregnancy dating guidelines after one year of preparations. The guidelines were discussed at section meetings, as well as the association’s yearly meeting, and were then openly published on the association’s homepage.”

3. Material and Methods: 48 centers were invited and 38 responses were included in the analysis. It would be proper to state a 79% (38/48) response rate instead of 84% (38/43).

Response: The response rate has now been changed to 79%.

4. Results line 192 etc: here the guidelines are described. Those are better placed in the Introduction/Background.

Response: The description of guidelines has been moved to the background section:

“The Swedish guidelines state that pregnancy dating can be performed between 11 and 22 weeks of gestational age, and preferably at 11–14 weeks, based on the crown–rump length (CRL) until the biparietal diameter (BPD) is 21–55 mm (10).”

5. Results line 207 etc: the deviant routines regarding early pregnancy ultrasound dating in one region are described but there is no information on the national task force set up 2015 to address the scientific data showing a deterioration which took place following the implementation of the 2010 guidelines (Ref: Acta Obstet Gynecol Scand. 2017 Feb;96(2):223-232. doi: 10.1111/aogs.13061. Epub 2017 Jan 7).

Response: The above mentioned study is important input to the discussion concerning which method to use for pregnancy dating, and was included as a reference in the results section (15). In the revised manuscript, we also added the following to the discussion:

“Although first trimester CRL measurements generally are more precise for pregnancy dating than second trimester measurements, the reported increase in post term rates after introducing
CRL measurements for pregnancy dating could be due to problems with the used formulae or the definition of pregnancy length (15).”

6. Background line 117: the term ‘validity’ is not appropriate in this context. Maybe ‘reliance’ or ‘trustworthiness’?

Response: The word “validity” has been changed to “reliance”.

7. Material and Methods line 140: again, avoid ‘validity’ here to not confuse the reader. Maybe ‘accuracy’?

Response: The word “validity” has been changed to “accuracy”.

8. Results line 170: Unclear: if 19 (50%) responders declared having shifted from LMP-dating to US-dating between 1980 and 1992 then what about the rest? The finding does not support the conclusion.

Response: Despite missing answers, to our knowledge, in Sweden, most clinics used LMP for dating in 1980, while all used UL-dating in 1992. The wording has been rephrased and reads as follows:

There was a shift from pregnancy dating based on last menstrual period to second-trimester ultrasound between 1980 and 1992, based on answers from 19 units (there were no answers on this item from the remaining 19 units, of which some did not exist during this time period).

9. Discussion line 264: The authors are surprised by the low adherence to early pregnancy dating instructions. Admitting there is a documented and debated problem using certain algorithms might expand the understanding and could be brought into the discussion.

Response: Thank you for this comment, which has been included as follows:

“However, the deviations from the guidelines were related to observed challenges after implementation, such as increased postterm rates that were attributed to the new dating formulae (15).”
10. Discussion line 357: The definition of pregnancy length is a related issue, however not central to the objectives of this study. There is no survey data to support the recommendation of 40 weeks + 0 days (and the definition requires further discussions about the definitions of LMP and 'completed weeks and days'). This section is better left out.

Response: The reviewer is right that the study did not aim to define pregnancy length. On the other side, we feel that the exact way clinics computed the estimated date of delivery is very relevant when addressing implementation of pregnancy dating guidelines. This is why we opted to include relevant information which was included in the questionnaire and also describe relative discrepancies. We have nevertheless rephrased the paragraph, which now reads:

“The observed two definitions of gestational age at EDD (39 weeks + 6 days or 40 weeks + 0 days, respectively) imply a risk when patients move between counties as one day of difference in gestational age could affect the induction of postterm pregnancies or differentiation of miscarriage from extremely preterm delivery (23). Also, using the same definition would facilitate comparisons in research (24).”

In the results section the corresponding paragraph has been changed to:

“Thirty units applied a gestational length of 39 weeks + 6 days to estimate the date of delivery in connection with pregnancy dating and five units used 40 weeks + 0 days. Two units were uncertain on which gestational length was used (Table 1).”

11. Discussion line 368: Beware to give recommendations if not scientifically based. This is common sense but not automatically part of the survey report.

Response: The sentence has been rephrased as follows:

“Some units would repeat pregnancy dating performed elsewhere if the documentation was inadequate, which is in conflict with the intention to keep ultrasound exposure as low as reasonably possible to avoid adverse side effects (23,24).”

12. I would recommend to explain the content of Figure 1 and Figure 4 in text only.

Response: Figure 1 has been omitted. Instead the text in Results has been changed to:

The response rate was 79%: 38 valid replies, five nonresponses, and five excluded responses (two smaller units covered by larger units’ responses, two double answers, and one blank, anonymous answer). Figure 4 has been omitted and the corresponding results are presented only in the manuscript as before.