Author's response to reviews

Title: Agreement between transperineal ultrasound measurements and digital examinations of cervical dilatation during labor

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Author's response to reviews: see over
**Reply to reviewers**

We thank the Reviewer for their kind and helpful comments on the manuscript.

**Reviewer 1**

- **Minor Essential Revisions**

1. Materials and Methods: In Table 1 authors reported postpartum bleeding amount of parturients. Whether this observation is based upon objective measurements or determined via visual approximation is not stated in methods. It would be appropriate for authors to state the method of measurement or remove the information all together as it’s not directly related to study question.

**Reply:** We agree and have removed information regarding postpartum bleeding.

2. Results: In paragraph 4 confidence intervals of PCC is missing.

**Reply:** Pearson correlations coefficient was 0.72 (95% CI 0.56-0.82) and is now in the manuscript, line 140.

3. Results: In paragraph 5 authors used a three-way ANOVA model to give intra-observer ICC and repeatability coefficient. Is there any reason why those calculations were made for only one observer (SB) when there are 3 more observers. An explanation such as inadequate number of observations by other observers would be nice. Also confidence intervals of repeatability coefficient is missing. If statistical software authors have used did not calculate it they can refer to the work of Bartlett et al. (Ultrasound Obstet Gynecol. 2008 Apr;31(4):466-75. doi: 10.1002/uog.5256.) which explains a formula to calculate it.

**Reply:** Repeatability coefficient is 0.49 (95% CI 0.33-0.65) and is now in the manuscript, in line 145.
As for the intraobserver analyses we have added to the manuscript an explanation in lines 202-208 in the Discussion chapter.

- Discretionary Revisions

2. References: Journals author guideline states journal names should be abbreviated according to MEDLINE style.

Reply: Thank you again. This has been changed in Reference list.

Reviewer 2

Major Compulsory Revisions
The selection and inclusion of the study population is not clear. I would suggest to add a flowchart.

Reply: A flow-chart has been added.

Methods: line 93 and on are Results. Please move to the Results section.

Reply: This has been moved to the Results section.

I have some problems with a mean cervical length (measured by VE). No one will measure 4.7. What would be the effect on the results if you only use the median in the analyses?

Reply: We agree that no one would use a decimal when assessing the individual cervical dilatation, however, when reporting the mean from a study population one decimal should be reported. We have reported both mean and median in the Result section (mean cervical
dilatation measured with ultrasound was 3.8 cm, median 3.3 (range 0.8-8.1) vs. mean cervical dilatation with palpation 4.7 cm, median 4.0 (range 0-10).

In the correlations analyses, the individual assessments from ultrasound and clinical examinations are compared.

The fact that the time between the two measurements (ultrasound and VE) is lacking/not registered can cause bias to the results.

**Reply:** We agree. We mention this as a limitation in the Discussion section, line 178-185 and we have planned a new study where we register duration and time of every examination and try to keep the interval between examinations as short as possible.

**Minor Essential Revisions:**
Please add in Methods the method of the intra observer ICC

**Reply:** Intraobserver ICC was calculated using two-way random variation of single measurements and intermethod ICC was calculated using two-way random variation of average measurements. This has now been explained in Methods section, under statistics in line 102-111.

References: not all complete or in the right style: i.e. nr 25

**Reply:** This has now been changed.

**Level of interest:** An article of limited interest

**Quality of written English:** Needs some language corrections before being Published

**Reply:** Thank you. This has been done.