Author’s response to reviews

Title: Potential excess of vaginal examinations during the management of labor: frequency and associated factors in 13 Peruvian hospitals

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Reviewer reports:

Reviewer #1:

R1Q1: I think it would be better to imply similar research in similar context in Peru.

Given the reviewer commentary, we have performed a new broad search of studies that assess the number of vaginal examinations during labor in Peru and LA, but we have not found new studies regarding this topic.

R1Q2: Why the authors did not consider the high-risk pregnancy, some women with prolong the labor or hospitalized in latent phase, and premature rupture of membrane. I think these conditions affect the number of vaginal examination.

As the reviewer states, prolonged labor or being hospitalized during the latent phase can affect the number of vaginal examinations. Sadly, we were not able to measure these variables. To clarify this, we have stated the following in the limitation subsection of the discussion: “4) Health professionals may need to perform extra VEs in specific cases such as presence/suspicion of a dysfunctional labor pattern or abnormal fetal heart rate pattern. However, we were not able to collect these situations, so we had no clinical information to evaluate if extra VEs were or were not necessary for labor management. Nevertheless, we expect to compensate this limitation, at least partially, by using the mean of expected VEs.”
R1Q3: It is better the authors compare the main variables (VE) between public or social security health systems.

As the reviewer suggests, we have performed this comparison and it is presented in tables 1 and 3. In table 1 we present the median number of VEs performed in hospitals from public and social security systems separately. Moreover, in table 3, we present the effects of the health system on the probability of getting PEVE (more than 4 VE). We have found a PR of 1.25 (95% CI: 0.56 - 2.79), and an adjusted PR of 1.33 (95% CI: 0.86 - 2.06), which show that there is not a statistically significant difference of PEVE, between public and social security health systems.

R1Q4: The collection of VE data was done through an interview in which the postpartum women were asked about the number of VE performed in total during labor. The authors did not use the hospital documentation for the number of vaginal examinations. They can recommend it for future study in the discussion.

As stated by the reviewer, we have mentioned in the limitations sections that we were not able to corroborate the number of VE with the hospital’s registries: “Also, to minimize these limitations, further studies should corroborate the information collected through the revision of the hospital registries.”

Reviewer #2: Background Section

R2Q1: It is suggested to mention the number of VE and has been considered on the higher side in other studies which have assessed the association with an increased risk of infection or fever, pain, discomfort, embarrassment, dissatisfaction with intrapartum care and post-traumatic stress syndrome? Furthermore, what was the criteria to consider high number of VE in these studies?

We have found that these studies evaluate the number of VE either using it as a quantitative variable (per each extra VE) or by using cutoffs (>5 and >7VE). For this reason, we have clarified as following, in the second paragraph of the background section: “Although a higher number of VE has not been clearly associated with an increased risk of infection or fever [5, 8-10], it has been associated with pain, discomfort, embarrassment [3, 11], dissatisfaction with intrapartum care [12], and posttraumatic stress syndrome [13, 14].”

R2Q2: it has been mentioned that 'excessive number of VE during labor has been assessed in previous studies': where these studies were conducted? Are these studies mostly from low
resource settings? Were there any differences in terms of excessive number of VE in low and high resource settings?

Both of the studies that used > 5VE as a cutoff point were performed in Palestina, a low resource setting. Given the lack of studies on this subject, we cannot conclude on the differences between low and high resource settings.

R2Q3. What were the factors that were found to be associated with excessive VE in other studies?

Few studies have assessed associated factors. The main factor that was found to be associated in previous studies was the number of health professionals performing the examinations, which could not be evaluated in our study and it’s mentioned in the 4th paragraph of the discussion section as follows: “Third, in hospitals with higher amount and diversity of health personnel performing the assessment of the progress of labor (including gynecologists, midwives, residents, interns, medical students, and obstetrics students), each health personnel could register his findings on different documents and carry out parallel VE [31]. Accordingly, the number of health professionals in labor management has found to increase the number of VE [3].”

R2Q4: Context section can be renamed as 'settings'

As suggested by the reviewer, we have changed the word “context” by the word “settings”.

R2Q5: The collection of VE data was done through an interview in which the postpartum women were asked about the number of VE performed in total during labor: what was done to verify the accuracy of information provided by these post-partum women?

We have mentioned in the limitations sections that we were not able to corroborate the number of VE with the hospital’s registries. As mentioned in R1Q4, we have added a sentence suggesting further research to explicitly evaluate this: “Also, to minimize these limitations, further studies should corroborate the information collected through the revision of the hospital registries.”

R2Q6: In current pregnancy related variables complication of any kind should also have been included. Some other variables which can be deemed important what kind of health performing the delivery of women in the hospital? And was there any family/friend present with women
during delivery? Also, do authors think including reproductive history related variables would have been useful?

We do believe that there are some reproductive variables that could have been important, but we were not able to measure. Thus, as stated in R1Q2, we have stated in the limitation subsection of the discussion the following: “4) Health professionals may need to perform extra VEs in specific cases such as presence/suspicion of a dysfunctional labor pattern or abnormal fetal heart rate pattern. However, we were not able to collect these situations, so we had no clinical information to evaluate if extra VEs were or were not necessary for labor management. Nevertheless, we expect to compensate this limitation, at least partially, by using the mean of expected VEs.”

R2Q7: Information on average number of women in general who arrived in advanced labour in these hospitals previously would have been very useful in discussing the results.

Indeed, we do believe this information is important. However, we could not evaluate this.

R2Q8: It is suggested to include any information if taken, from health personnel in these hospitals involved in process of assessing the progress of delivery and conducting VE. This information can be corroborated with results and help in building discussion.

As the reviewer states, this information could have been important, but we have not collected information from health personnel as the objective was to interview the women.

Discussion:

R2Q9: Need to cite more recent literature especially from countries with similar health settings as Peru

As stated in R1Q1, we have performed a new broad search of studies that assess the number of vaginal examinations during labor in Peru and LA, but we have not found new studies regarding this topic.

R2Q10: It is mentioned that 'This suggests irregular following of guidelines recommendations regarding the frequency of VE during labor'. can this statement be concluded when authors have clearly mentioned in the limitation section that there is no information about the length of labor spent in the hospital and no clinical information to evaluate if VE were necessary or unnecessary for labor management.
As the reviewer states, it’s not possible to conclude that given the limitations of the study. Thus, we have decided to erase this part of the conclusion.