Reviewer's report

Title: Experience of childbirth in first-time mothers of advanced age - a Norwegian population-based study

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Reviewer: Tracey Mills

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Experience of childbirth in first time mothers of advanced age - a Norwegian population-based study Aasheim et al

This study considered the effect of advanced maternal age on the experience of childbearing in 30065 nulliparous Norwegian women recruited to the Moba between 1999 and 2008. This is a potentially important given the increased incidence of advanced maternal age (AMA) in developed countries and the association of AMA with adverse pregnancy outcomes. Negative birth experience resulting from increased obstetric intervention have potential to lead to psychological morbidity which has long term consequences for mother and child.

The authors report that women aged 32 and above expressed more worry about the upcoming birth and had higher marginally odds of negative birth experience. Further analysis showed that the increased negative birth experience was associated with spontaneous vaginal birth rather than operative delivery. The manuscript contains a few errors of syntax and expression which are indicated below. The research question and objectives are clear. Data were obtained from the analysis of three single item invalidated questions on a larger survey. Although the numbers of participants is large, the design has limited the depth of analysis and permits only superficial associations to be inferred without exploring the underlying reasons. I have several major concerns with the work which are outlined below for the authors consideration

Major compulsory revisions

General

1. The definition of advanced maternal age used in this study includes women of 32 and above. This is justified on the basis of being the lower limit of the upper quartile for the Norwegian birth cohort in 2003, the control group was similarly designated as all women below the upper and lower quartiles. This raises a number of issues; firstly, there has been a significant increase in the number of births to older women over the last decade in developed countries. Are the authors confident that the 2003 cohort reflects the current distribution of maternal age in Norway? Secondly, this definition is considerably lower than those used on the majority of the literature to define AMA The authors rightly point out that currently a lack of consensus exists with regard to definitions of advanced maternal age. However, most studies use cut off of 35 and/or 40 as evidence
suggests an increase risk of adverse outcomes of pregnancy particularly increased perinatal mortality after the age of 35 although evidence suggests that increased risks may not be clinically significant until age 40 (see Cleary Goldman et al 2005) No evidence is presented to support increased risk of important complications at 32, few women would consider themselves as AMA at this age. The choice of a lower cut off may also have contributed to the finding of only marginal difference between the groups. The present analysis considers the effect of ‘advancing age’ rather than ‘advanced age’. To meet the objectives data should be re-analysed using women over 35 as the AMA group.

2. Statistical Analyses
In addition to the expert opinion requested could the authors clarify:
1. The composition of the 2003 ‘sub-sample’ described in paragraph 1, it is also not clear why this extra group is included for analysis also please add to text.
2. Why was it considered necessary to avoid adjusting for the processes of natural aging and which variables were excluded as confounders in the regression model?
3. The rationale for subdividing the ‘AMA’ women into 32-37 and 38 particularly why these cut offs were used?
4. Discussion: Paragraph 2 The authors speculate the reasons underlying the increased odds of negative birth experience as relating to the effect of maternal age on the physiology of birth, is data available on length of labour, use of analgesia etc from the cohort to support and the conclusion?

Minor essential revisions
4. Abstract: Results change ‘oldest’ to ‘older’ throughout since this relates to women over 32 not the subsample over 38.
5. Introduction: Paragraph 2 LN 71 most studies have reported more women of AMA are married or in stable relationships and tend to be more affluent please remove or qualify the statement regarding increased prevalence of single and unemployed status in women of AMA.
6. Materials and methods: Paragraph 1 change ‘worry for the upcoming birth’ to ‘worry about the upcoming birth’ and throughout. Not for publication.
Paragraph 2 LN 108 after birth previously; change to ‘either a live or stillborn infant’ Not for publication.
7. Statistical Analyses: LN 136 change ‘labor’ to ‘labour.’ Not for publication.
8. Results: Paragraph 1 Define high income low body mass index and preterm birth.
9. Discussion Paragraph 2 LN 208 change year to years. Not for publication. Be consistent in use of caesarean section vs. caesarean throughout. Paragraph 5 Change ‘In similarity’ to ‘In agreement’. Paragraph 6 LN 245 change ‘relatively’ to ‘relative’.
10. References include several errors and inconsistencies eg 3,11,16,33. Please check and correct
11. Figure 1 title change Fow to Flow
12. Figure 2 Axis title should be experience of childbirth rather than ‘memories’ as this was the focus of the questions.
13. Table 1 Please provide more extensive legend and indicate what columns the P values given relate to. Change Pregravia to pregravid.
14. Table 2 Could be simplified as it is difficult to follow in its present form.

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

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

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

**Declaration of competing interests:**

I declare I have no competing interests