Reviewer's report

Title: Predictors of birth outcomes through changing times: a 32-year historical cohort study in an industrial city

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Reviewer: James Chalmers

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'Predictors of birth outcomes through changing times: a 32-year historical cohort study in an industrial city'

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Research article

At first reading I was frustrated that the study stopped at 1992. However, it is rare to have such good quality data stretching back into the early sixties and I think that it is important that this sort of information is available. After all, there are plenty of sources of data which can give a similar picture over the past 15 years but very few which describe the earlier period.

1. Is the question posed by the authors well defined?
   In the abstract section, the authors state that they aim to “describe temporal changes in key predictors of birth outcomes in Newcastle upon Tyne over three decades, 1961-1992” and this is what they have done. For ease of reading, however, it would be useful to have a more detailed description of the aims of the study. These should point out the main predictors of interest, and indicate that other parameters are also described, such as birthweight, gestation, stillbirth and infant death. (discretionary revision)

2. Are the methods appropriate and well described?
   Yes, the methods of data collection are well described and appropriate and the analyses, which are fairly straightforward, are appropriate.

3. Are the data sound?
   Yes – well constructed database

4. Does the manuscript adhere to the relevant standards for reporting and data deposition?
   Yes. This is descriptive epidemiology and I am not aware of an internationally recognised standard approach (as is the case for such things as RCTs or meta-analyses).
5. Are the discussion and conclusions well balanced and adequately supported by the data?
Yes, and fit in with the findings of other studies.

6. Are limitations of the work clearly stated?
Yes. However, I think that we need to have a more extensive discussion of the problems of estimating the accuracy of gestational age prior to the generalised use of ultrasound. In particular, how likely is it that large babies, who appear heavier than their gestation (based on LMP) might suggest, could be misclassified at birth. For example, if the mother delivered a large baby at 36 weeks based on a slightly uncertain LMP, is there any possibility that the midwife might assume that the LMP was wrong, and reclassify the gestational age? (compulsory revision)

7. Do the authors clearly acknowledge any work upon which they are building, both published and unpublished?
Yes.

8. Do the title and abstract accurately convey what has been found?
I am not happy about the use of the term “cohort”. It either implies that a cohort of women has been studied, which is not true since it looks at successive cohorts, or it implies a “cohort study”. This latter interpretation would imply that a group of women with certain characteristics were compared with an appropriate group without such characteristics and then the outcomes were studied. This is not the case here since we are not presented with the outcomes compared to the predictors. What we are getting is a description of the maternity population at different times. This is valuable in itself because so few areas have suitable data going back far enough and the authors should be proud to reflect this in the title (compulsory revision)

The abstract is clear.

9. Is the writing acceptable?
Very clear style.

Level of interest: An article whose findings are important to those with closely related research interests

Quality of written English: Acceptable

Statistical review: No, the manuscript does not need to be seen by a statistician.

Declaration of competing interests:
I declare that I have no competing interests