

A Review of "An Estimation of Intrapartum-related Perinatal Mortality Rates for Booked Home Birth in England and Wales Between 1994 and 2003"

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Summary

This population-based cross-sectional study by Mori et al. presents routinely collected national data from England and Wales to provide estimates of intrapartum-related perinatal mortality rates for booked home births. Intrapartum-related perinatal mortality is a narrowing of the definition of perinatal mortality to exclude deaths from causes other than intrapartum asphyxia, anoxia, or trauma. Although rates of perinatal mortality are more commonly used in studies, the authors use IPPM as a way to reflect the safety of home birth as the location for intrapartum events.

Two databases were utilized to carry out the research. The first data set was from the Confidential Enquiry into Maternal and Child Health (CEMACH), which furnished data for stillbirths and infant deaths, and included information about intended and actual place of birth. The second data set was from the Office for National Statistics (ONS), which supplied the number of all births and actual home births between 1994 and 2003. From the two data sets the authors were able to ascertain the number of intrapartum-related perinatal deaths that occurred at home births, and divide this number by the denominator (all home births) to calculate the intrapartum-related mortality rate. Unfortunately, the data sets did not provide all the information required to differentiate between planned home births, unplanned home births, and

hospital births that were transfers from home. The ONS reported actual home births (whether planned or unplanned), and the CEMACH database used the term "booked home birth", which indicated the woman's preference for home birth at her first antenatal visit and did not specify whether a transfer occurred in labour, or antenatally. The authors took great care to formulate best estimates of these subgroups. A systematic review of the home birth literature in England and Wales was undertaken to determine the approximate rates of unplanned home births and transfers to hospital in the study population. These rates were then applied to the data to provide denominators for three subgroups: completed home birth group, transferred group, and unintended home birth group.

During the ten year study period (1994-2003), 4991 intrapartum-related perinatal deaths occurred among 6 314 315 births in England and Wales (0.79 per 1000 births). There were 125 intrapartum-related perinatal deaths among 130 700 home births (0.96 per 1000 births). The estimated IPPM for women who booked a home birth and went on to have a home birth was 0.48 per 1000. The IPPM for the transferred group was 6.05 per 1000, and was 1.42 per 1000 for unintended home births. The authors plotted the trend of the IPPM rates over the ten year study period and found that the IPPM rates improved significantly for the overall data ($p < 0.001$), but increased for the home birth data

($p < 0.01$). The results suggest that planned and completed home birth is as safe as hospital birth, but the risk of perinatal death due to birth events is higher than average when a booked home birth is transferred, or when a woman births at home unintentionally. Furthermore, the data indicates a steady decrease in IPPM for hospital births over the ten year period, and this is not observed for the home birth data.

Commentary

The safety of home birth is notoriously difficult to study due to methodological hurdles such as lack of randomization, retrospective data, and differences in community standards in the way home birth is offered.¹ Adverse perinatal events are rare in low-risk obstetric populations, and high numbers of home births are necessary to show a true difference in safety between home and hospital births. The strong points of this study in England and Wales are the large number of home births included, and the direct and simple outcome measure of intrapartum-related perinatal mortality. The use of IPPM focused the adverse outcome to birth events. The more widely used term "perinatal mortality" includes late fetal deaths, stillbirths and early neonatal deaths, and the rate in England and Wales in 2004 was 10.0 per 1000 births.² An IPPM rate of 0.79 per 1000 births is much more specific and allows for a finer comparison with home birth data. Other studies of home birth compare neonatal and maternal morbidities and intervention use, but this one attempts to capture the most catastrophic event of birth: death. In doing so, the question of safety in a home birth setting is addressed.

Unfortunately, there are limitations to this study. The authors recognized that planned homebirths are different than unplanned, and potentially unattended, home births. The outcomes of planned homebirths transferred to hospital need to be tracked separately. The data sets available did not allow the researchers to make these differentiations, and a process of review and estimation was required to formulate home birth subgroups and denominators. Furthermore, in the study of home birth, it is of utmost importance to know the planned place of birth at the beginning of labour rather than

at the beginning of antenatal care. When the intended place of birth is documented at the onset of labour, rates of completed home birth and rates of transfer to hospital can be cleanly tracked without including the women who changed their planned place of birth antenatally due to health concerns or choice. The authors acknowledged this pitfall but had to work with the data set available, one that included only the antenatal booking.

This study adds to the current body of literature on home birth by reporting on an unusually large number of home births and using a carefully defined intrapartum-related perinatal mortality rate to comment on the safety of home birth. Simple changes in the data collected by the national agencies would strengthen future studies evaluating home birth in England and Wales.

REFERENCES

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AUTHOR BIOGRAPHY

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