CMAJ COMMENTARY

The safety of home birth: Is the evidence good enough?

Helen McLachlan PhD, Della Forster PhD

∞∞ See related research article by Janssen and colleagues

Few issues in maternity care remain as contested and unresolved as the debate surrounding the safety of home birth versus hospital birth. The American, Australian and New Zealand colleges of obstetricians and gynecologists oppose home birth. Home birth in uncomplicated pregnancies is supported by the Royal College of Obstetrics and Gynaecology and the Royal College of Midwives in the United Kingdom and by the Australian, New Zealand and Canadian colleges of midwives. The Society of Obstetricians and Gynaecologists of Canada recognizes the need for further research.

The core principle of choice for women in childbirth is recognized internationally. However, most women in developed countries have limited choice of where they give birth. The vast majority give birth in hospital, except in a few countries such as the Netherlands, where about one-third give birth at home. Barriers to home birth include lack of funding, lack of indemnity insurance for midwives and, in some countries such as the United States, difficulties with licensing of midwives. In Australia, a recent national review of maternity services received many submissions from women advocating and requesting government funding for home birth. However, home birth as a mainstream option was not supported; it was considered too "sensitive and controversial."[1]

In this issue of *CMAJ*, Janssen and colleagues[2] report the findings of their prospective cohort study in which they compared the outcomes of planned home births attended by midwives with those of planned hospital births attended by midwives and a matched sample of physician-attended hospital births in British Columbia. They found that the risk of perinatal death associated with planned home birth attended by a midwife was low and did not differ significantly from that of planned hospital birth. They also found that women who planned a home birth were at reduced risk of obstetric interventions and adverse maternal outcomes.

Given the current lack of evidence from randomized controlled trials, the study by Janssen and colleagues makes an important contribution to our knowledge about the safety of home birth. As with most studies of home birth, their study was limited by the possibility — if not the likelihood — of self-selection by participants to a home-birth option. Any differences in outcomes between the study groups may therefore be attributable to differences in the characteristics of the groups themselves.

A number of studies have investigated the outcomes of home birth.[3–8] Although these studies did not find statistically significant differences in adverse perinatal outcomes, they had a variety of methodological limitations, such as selection bias, lack of comparison groups, lack of statistical power and lack of certainty about submission of data. However, in the absence of evidence from randomized controlled trials, these data represent the best evidence that we have to inform the debate.

Key points

- Different professional bodies have taken conflicting positions on home birth.
- Although policy-makers support choice in childbirth, choices for home birth are often limited.
- Better evidence on the safety of home birth is needed, ideally from randomized controlled trials.
- The available evidence supports planned home birth for women at low risk who are cared for by qualified midwives with access to medical backup.

There is little doubt that a well-designed, well-conducted and adequately powered randomized controlled trial would assist in answering many questions about home birth. Outcome measures could include infant mortality and morbidity, birth interventions, maternal morbidity, breastfeeding, depression, anxiety, cost, women's experiences and satisfaction. A randomized controlled trial would ensure the similarity of study groups at baseline and the prospective collection of data for prespecified outcomes. It would also enable adjustment for known differences and potential confounders.

The feasibility of conducting a randomized controlled trial of home versus hospital birth is an area of debate. Hendrix and colleagues[9] recently reported on an attempt to conduct a randomized controlled trial on home birth in the Netherlands, where women were not willing to be randomly assigned to home versus hospital birth and declined participation because they had already chosen their place of birth. However, given that home birth is a cultural norm in the Netherlands, these findings cannot be generalized to countries where home birth is uncommon or rare. In the only published randomized controlled trial of home birth, 15% (11/71) of women offered participation agreed to enrol.[10] This showed "that randomizing women to home or hospital delivery is possible, contrary to what many had felt."[11]

From Mother and Child Health Research (McLachlan, Forster), La Trobe University, Melbourne, Australia; the Division of Nursing and Midwifery (McLachlan), La Trobe University, Bundoora, Australia; and the Royal Women's Hospital (Forster), Parkville, Australia

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Medical ethicist Raanan Gillon[12] argued that clinicians who have strong biases should be excluded from the recruitment process in randomized controlled trials of place of birth and that women should be given balanced information. It is not known, Gillon writes, which place of birth (i.e., hospital or home) is safe and hence the reason for the trial, which is to develop more reliable information on which women can base their choice.

The other major hurdle to conducting a randomized controlled trial to determine the safety of home birth is sample size. Given that perinatal mortality is relatively rare among low-risk women in developed countries, huge numbers would be required to detect differences. Nevertheless, a number of studies in maternity care have used composite outcome measures to explore rare outcomes such as maternal or neonatal mortality. A multicentre trial using a composite primary outcome may be a feasible option.

Meanwhile, in the absence of high-quality evidence, we must use the available evidence to describe the circumstances under which home birth may be a reasonably safe option. The available evidence suggests that planned home birth is safe for women who are at low risk of complications and are cared for by appropriately qualified and licensed midwives with access to timely transfer to hospital if required. The very notion of safety is complex, however. Alison Macfarlane, professor of perinatal health in London, England, commented on the feasibility of a randomized controlled trial of home versus hospital birth, stating "Some people consider it unsafe to give birth anywhere other than a hospital with a consultant unit, while others fear the iatrogenic effects of care given in such settings."[10] In effect, even women at high risk for complications may choose home birth over hospital birth based on previous traumatic experiences.[1,13] Safety needs to be considered in the context of geographic isolation as well. Access to maternity care is often limited in rural and remote areas. In Australia, numerous rural and regional maternity services have closed in recent years. The safety of home birth is contingent on readily available transport for emergency transfer to hospital.

The debate about the safety of home birth cannot be driven by ideology. The call for better evidence remains.[11,14]

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Correspondence to: *Dr. Helen McLachlan, Division of Nursing and Midwifery, La Trobe University, Bundoora, Victoria 3086, Australia; fax 61 3 9479 5988; h.mclachlan@latrobe.edu.au*