

Maternal and newborn outcomes in planned home birth vs planned hospital births: a metaanalysis

TO THE EDITORS: A recent metaanalysis by Wax et al¹ raises several methodologic and analytic concerns. Only 4 studies selected for analysis involved deliveries occurring in the present decade, 7 studies involved fewer than 3000 participants (one with $n = 11$), and only 1 study was US-based. That study² accounted for 59% of the neonatal deaths analyzed by Wax et al, and was based on birth certificates that did not explicitly indicate whether the place of birth was planned. Moreover, the analyses of intervention, maternal and infant morbidity involved different studies from those examined for perinatal and infant mortality. Results (Tables 2 and 3) derive from 5 or fewer of the 12 studies included for most outcomes reported, and only for cesarean section were data from as many as 10 studies included. We therefore have concerns about the generalizability of these results, especially in the current American context.

Despite variation in inclusion in specific analyses, the results are generally consistent—planned home birth results in significantly less obstetric intervention, and maternal peripartum morbidity. Although low birthweight and preterm birth were also significantly lower, no differences in large-for-gestational age and newborn ventilation were observed. We question the results for postdates delivery in Table 3; given similar crude frequencies (2.1% vs 2.2%) it seems unlikely that the multivariable analysis would yield a result of odds ratio, 1.87 (95% confidence interval, 1.50–2.32).

The analysis of perinatal and neonatal death raises more concern. A single study contributed most of the data for the perinatal mortality analysis,³ yet this study fails the authors' case definition for perinatal death. Only intrapartum deaths, intrapartum death and death in the first 24 hours, and intrapartum death and death in the first 7 days were reported. Although these end points seem more appropriate than traditional definitions of neonatal death (death of liveborn infant within the first 28 days of life), the studies included had heterogeneous outcomes. Although the neonatal mortality analysis included more of the 12 studies, far fewer deliveries were analyzed. Had data from the de Jonge study been included,³ Wax et al¹ would have observed no difference in odds of neonatal death between planned home and hospital births. We also dispute the notion that “nonanomalous” deliveries were identifiable in all the

studies included in the mortality analyses (Table 3). Most birth defects registries worldwide identify major congenital anomalies in 3–5% of deliveries, which would yield a minimum of 10,000 anomalous infants among the home births and 5000 among hospital births in the perinatal death analysis. In actuality, less than 1% of births were so identified. Although the proportions are higher among the studies included in the neonatal death analysis, incomplete ascertainment likely occurred. The lengthy time interval across these studies occurred requires statistical control if not a stratified analysis by decade, as perinatal and neonatal mortality rates declined considerably since the 1970s.

Although we commend the efforts of Wax et al in addressing an important issue, we believe that, due to inconsistencies in the methodology and implementation of their study, its findings raise more questions than they answer, potentially giving rise to unfounded consumer fears toward a birthing choice that has otherwise been shown to result in safe and healthy outcomes for women with low obstetrical risk and their newborns.² ■

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International data demonstrate home birth safety

TO THE EDITORS: The metaanalysis by Wax et al¹ resulted in misleading results and conclusions about the safety of home birth.

The authors appropriately found no difference in perinatal mortality rates between planned home and planned hospital

births when they included all of the selected studies, which included the very large, high-quality Dutch study that represented >90% of the available data.²

However, when they summarized the risk for neonatal death separately, they chose to look only at combined early (0-6 days)