

Review: A home-like birth environment has beneficial effects on labor and delivery

Hodnett ED. Home-like versus conventional institutional settings for birth. Cochrane Database Syst Rev. 2002;(1):CD000012 (latest version 13 Jul 2001).

QUESTION

In women at low risk for obstetric complications, what are the effects of a home-like birth environment compared with those of a conventional labor ward on labor and birth outcomes?

DATA SOURCES

Studies were identified by using the search strategy developed for the Cochrane Pregnancy and Childbirth Group, which included searching MEDLINE and the Cochrane Controlled Trials Register, and by hand searching 38 relevant journal titles.

STUDY SELECTION

Studies were selected if they were randomized controlled trials (RCTs) or quasi-RCTs that compared a home-like institutional birth setting with a conventional institutional birth setting in low-risk pregnant women.

DATA EXTRACTION

Data were extracted on methodologic quality, including allocation concealment procedure, patient characteristics, birthing center characteristics, and outcomes. Outcomes were intrapartum medical interventions, intrapartum and postpartum complications, type of delivery, perinatal mortality, feeding practices and problems, neonatal health outcomes, and adjustment to mothering.

MAIN RESULTS

5 RCTs and 1 quasi-RCT ($n = 8677$) were included. 19% to 77% of women allocated to a home-like birth setting were transferred to conventional care before or during labor. Women who gave birth in the home-like setting had less use of pain medication during labor, were less likely to be immobile during labor, had fewer fetal heart rate abnormalities, had fewer operative deliveries, and were less dissatisfied with their care than were women in the conventional labor-ward setting (Table). Groups did not differ for discontinuation of breast-feeding at 8 weeks (Table). A trend toward higher perinatal

mortality was seen in the home-like setting $\{P = 0.066\}^*$ (Table).

CONCLUSION

In women at low risk for obstetric complications, giving birth in a home-like birth environment is associated with less analgesia use, operative delivery, and fetal abnormalities and greater satisfaction with care.

Source of funding: No external funding.

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*P value calculated from data in article.

Home-like birth setting vs conventional labor ward†

| Outcomes | Number of trials | Weighted event rates | | RRR (95% CI) | NNT (CI) |
|---|------------------|----------------------|--------------|-----------------|-----------------|
| | | Home-like | Conventional | | |
| Any intrapartum analgesia | 4 | 69% | 75% | 8% (5 to 10) | 18 (13 to 27) |
| Immobility during labor | 1 | 31% | 39% | 19% (10 to 27) | 14 (10 to 28) |
| FHR abnormality | 2 | 19% | 25% | 23% (15 to 30) | 18 (13 to 29) |
| Operative delivery | 5 | 15.2% | 17.4% | 12% (3 to 20) | 46 (27 to 200) |
| Dissatisfaction with care | 2 | 27% | 70% | 62% (50 to 71) | 3 (2 to 3) |
| Stopped breast-feeding within 6 to 8 wk | 2 | 1.26% | 1.26% | 1% (-60 to 149) | Not significant |
| | | | | RRR (CI) | NNH |
| Perinatal mortality | 4 | 0.68% | 0.38% | 82% (-3 to 243) | Not significant |

†FHR = fetal heart rate. Other abbreviations defined in Glossary; RRR, RRI, NNT, NNH, and CI calculated from data in article using fixed effects.

COMMENTARY

Home-like birth environments, in which low-risk women are mainly looked after by professional midwives, have shown such benefits as greater maternal satisfaction (1) and decreases augmentation, use of analgesia, operative deliveries, and fetal heart rate abnormalities.

In the review by Hodnett, the results show that when women are looked after in home-like birth environments they are more likely to be mobile during the first stage of labor and more likely to deliver in an upright or semirecumbent position. These 2 factors may contribute to the substantial decrease in augmentation rates, use of analgesia, operative deliveries, and abnormal fetal heart rate tracings.

The interventions in this review can be applied to most developed and developing countries. Analgesia (epidural and spinal) or operative delivery are an enormous cost burden to health service providers, and it has been shown that the average uncomplicated vaginal birth costs 68% less in a home setting than in a hospital (2).

The concern is that the delay in operative deliveries or delay of interventions may contribute to an increase in perinatal mortality. Although a trend existed toward increased perinatal mortality, the incidence was low and within normal limits (3). It is important that health care

providers giving care to women in home-like birth environments continue to observe the women during labor and birth so that fetal compromise is recognized early and dealt with effectively.

The use of home-like birth environments for low-risk women has beneficial effects on parturients. The results of the review by Hodnett support the goals of the Better Births Initiative (4). Financial shortages are major problems in developing countries. Introducing home-like birth environments with good clinical care could be a cost-effective health care alternative but warrants further attention, specifically to perinatal mortality.

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