Does midwife-led continuity of care improve the delivery of care to women during and after pregnancy?

Midwives are the primary providers of care for childbearing women around the world. In midwife-led continuity of care, midwives are the lead professionals in the planning, organisation and delivery of care given to women from the initial booking to the postnatal period. Non-midwife models of care includes obstetrician; family physician and shared models of care, in which responsibility for the organisation and delivery of care is shared between different health professionals.

Key messages

- In high-income countries, midwife-led care compared to other models of care for childbearing women and their infants:
  - reduces preterm births (less than 37 weeks),
  - reduces overall foetal loss and neonatal deaths,
  - increases spontaneous vaginal births,
  - reduces instrumental vaginal births (use of forceps or vacuum), and
  - decreases the use of regional analgesia (epidural/spinal).

- In addition, midwife-led care compared to other models of care probably reduces caesarean births and increases the number of women with an intact perineum.

- None of the included studies were conducted in a low-income country, and the transferability of this evidence is uncertain.
Background

In most low- and middle-income countries, midwives are the primary providers of care for childbearing women. The philosophy behind midwife-led continuity models is normality, continuity of care, minimum interventions and being cared for by a known, trusted midwife during labour. Midwife-led continuity of care can be provided through a team of midwives who share the caseload, often called ‘team’ midwifery. Another model is ‘caseload midwifery’, which aims to ensure that the woman receives all her care from one midwife or her or his practice partner. Midwife-led continuity of care is provided in a multi-disciplinary network of consultation and referral with other care providers. In other models of care, the responsibility for the organisation and delivery of care is shared between different health professionals as obstetricians or family physicians.

How this summary was prepared

After searching widely for systematic reviews that can help inform decisions about health systems, we have selected ones that provide information that is relevant to low-income countries. The methods used to assess the reliability of the review and to make judgements about its relevance are described here: www.supportsummaries.org/how-supportsummaries-are-prepared/

Knowing what’s not known is important

A reliable review might not find any studies from low-income countries or might not find any well-designed studies. Although that is disappointing, it is important to know what is not known as well as what is known.

A lack of evidence does not mean a lack of effects. It means the effects are uncertain. When there is a lack of evidence, consideration should be given to monitoring and evaluating the effects of the intervention, if it is used.

About the systematic review underlying this summary

Review objective: To compare midwife-led care with other models of care for childbearing women and their infants.

<table>
<thead>
<tr>
<th>Types of</th>
<th>What the review authors searched for</th>
<th>What the review authors found</th>
</tr>
</thead>
<tbody>
<tr>
<td>Study designs &amp;</td>
<td>Randomised trials comparing midwife-led care to other models of care</td>
<td>15 randomised trials</td>
</tr>
<tr>
<td>Interventions</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Participants</td>
<td>Pregnant women</td>
<td>17,674 pregnant women recruited from both</td>
</tr>
<tr>
<td></td>
<td></td>
<td>community and hospital settings. All studies</td>
</tr>
<tr>
<td></td>
<td></td>
<td>included low risk pregnancies and five studies</td>
</tr>
<tr>
<td></td>
<td></td>
<td>also included high-risk pregnancies.</td>
</tr>
<tr>
<td>Settings</td>
<td>Community or hospital</td>
<td>Australia (7 studies), United Kingdom (5 studies),</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Ireland (2 studies) and Canada (1 study).</td>
</tr>
<tr>
<td>Outcomes</td>
<td>Primary outcomes: Birth and immediate postpartum – regional analgesia,</td>
<td>All primary outcomes and secondary outcomes as</td>
</tr>
<tr>
<td></td>
<td>caesarean birth, instrumental/spontaneous vaginal birth, intact perineum;</td>
<td>antenatal hospitalization, antepartum hemorrhage,</td>
</tr>
<tr>
<td></td>
<td>Secondary outcomes: complications, procedures or medication use</td>
<td></td>
</tr>
<tr>
<td>Date of most recent search:</td>
<td>January 2016</td>
<td></td>
</tr>
<tr>
<td>Limitations:</td>
<td>This is well-conducted systematic review with only minor limitations.</td>
<td></td>
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</tbody>
</table>

Summary of findings

Midwife-led care compared to other models of care for childbearing women and their infants:

- reduces preterm births (less than 37 weeks),
- reduces overall foetal loss and neonatal deaths,
- increases spontaneous vaginal births,
- reduces instrumental vaginal births (use of forceps or vacuum), and
- decreases the use of regional analgesia (epidural/spinal).

The certainty of this evidence is high.

Midwife-led care compared to other models of care for childbearing women and their infants probably:

- reduces caesarean births and
- increases the number of women with an intact perineum.

The certainty of this evidence is moderate.

About the certainty of the evidence (GRADE) *

High: This research provides a very good indication of the likely effect. The likelihood that the effect will be substantially different† is low.

Moderate: This research provides a good indication of the likely effect. The likelihood that the effect will be substantially different† is moderate.

Low: This research provides some indication of the likely effect. However, the likelihood that it will be substantially different† is high.

Very low: This research does not provide a reliable indication of the likely effect. The likelihood that the effect will be substantially different† is very high.

* This is sometimes referred to as ‘quality of evidence’ or ‘confidence in the estimate’.
† Substantially different = a large enough difference that it might affect a decision

See last page for more information.
<table>
<thead>
<tr>
<th>Outcomes</th>
<th>Other models of care</th>
<th>Midwife-led care</th>
<th>Relative effect (margin of error)*</th>
<th>Certainty of the evidence (GRADE)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preterm birth (less than 37 weeks)</td>
<td>63 per 1000</td>
<td>48 per 1000</td>
<td>RR 0.76 (0.64 to 0.91)</td>
<td>High</td>
</tr>
<tr>
<td>Overall foetal loss and neonatal death</td>
<td>34 per 1000</td>
<td>29 per 1000</td>
<td>RR 0.84 (0.71 to 0.99)</td>
<td>High</td>
</tr>
<tr>
<td>Spontaneous vaginal birth (as defined by trial authors)</td>
<td>658 per 1000</td>
<td>691 per 1000</td>
<td>RR 1.05 (1.03 to 01.07)</td>
<td>High</td>
</tr>
<tr>
<td>Caesarean birth</td>
<td>155 per 1000</td>
<td>143 per 1000</td>
<td>RR 0.92 (0.84 to 1.00)</td>
<td>Moderate</td>
</tr>
<tr>
<td>Instrumental vaginal birth (forceps/vacuum)</td>
<td>143 per 1000</td>
<td>129 per 1000</td>
<td>RR 0.90 (0.83 to 0.97)</td>
<td>High</td>
</tr>
<tr>
<td>Intact perineum</td>
<td>269 per 1000</td>
<td>279 per 1000</td>
<td>RR 1.04 (0.95 to 1.13)</td>
<td>Moderate</td>
</tr>
<tr>
<td>Regional analgesia</td>
<td>270 per 1000</td>
<td>229 per 1000</td>
<td>RR 0.85 (0.78 to 0.92)</td>
<td>High</td>
</tr>
</tbody>
</table>

* margin of error = confidence interval (95% CI)  
RR: Risk ratio  
GRADE: GRADE Working Group grades of evidence (see above and last page)
### Relevance of the review for low-income countries

<table>
<thead>
<tr>
<th>Findings</th>
<th>Interpretation*</th>
</tr>
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<tbody>
<tr>
<td><strong>APPLICABILITY</strong></td>
<td></td>
</tr>
</tbody>
</table>
| ➡ All trials included in the review were conducted in high-income countries. | ➡ The context of ‘midwifery-led care’ is quite different in low-income countries. It is likely that midwives provide care but often do not lead it, and they may not have clear referral mechanisms. It is also uncertain whether the midwives are able to provide continuous antenatal, intrapartum and postnatal care to women.  
   ➡ When assessing the transferability of these findings, the following factors should be considered:  
   – The availability and training of midwives  
   – The midwives’ work load  
   – Accessibility for childbearing women  
   – The baseline risk for the outcomes listed above for the current model of care | |
| **EQUITY** | | |
| ➡ There was no information in the included studies regarding effects of the interventions on disadvantaged populations. | ➡ Given the scarcity of obstetricians and family physicians serving disadvantaged populations, the use of midwife-led care has the potential to reduce inequities in access to antenatal and postpartum care, provided the midwives are recruited, trained, supported and retained in under-served communities.  
   ➡ Consideration should be given to how the midwives are recruited, trained, supported and retained in under-served communities, including incentives and regulations encouraging this. | |
| **ECONOMIC CONSIDERATIONS** | | |
| ➡ Five studies presented cost data using different economic evaluation methods.  
  ➡ Evidence from these studies suggests that the use of midwife-led care may reduce costs and leads to better or comparable outcomes when compared to other models of care. | ➡ Midwife-led care could be cost effective in low-income countries, but this is uncertain. | |
| **MONITORING & EVALUATION** | | |
| ➡ No evidence from low-income countries was identified in this review, and the transferability of the evidence to low-income countries is uncertain. | ➡ Midwife-led continuity of care should be pilot tested and their impacts and costs monitored and evaluated prior to scaling up the use of this model in low-income countries. | |

*Judgements made by the authors of this summary, not necessarily those of the review authors, based on the findings of the review and consultation with researchers and policymakers in low-income countries. For additional details about how these judgements were made see: [www.supportsummaries.org/methods](http://www.supportsummaries.org/methods)*
Additional information

Related literature


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Conflict of interest
None declared. For details, see: www.supportsummaries.org/coi

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This summary has been peer reviewed by: Jane Sandall and Metin Gülmezoglu.

This review should be cited as

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