



October 2016 – SUPPORT Summary of a systematic review

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.**



Who is this summary for?

People making decisions concerning the use of midwife-led care models in the care of childbearing women.

! This summary includes:

- **Key findings** from research based on a systematic review
- **Considerations about the relevance of this research** for low-income countries

X Not included:

- Recommendations
- Additional evidence not included in the systematic review
- Detailed descriptions of interventions or their implementation

This summary is based on the following systematic review:

Sandall J, Soltani H, Gates S, et al. Midwife-led continuity models versus other models of care for childbearing women. Cochrane Database of Systematic Reviews 2016, Issue 4. Art. No.: CD004667.

What is a systematic review?

A summary of studies addressing a clearly formulated question that uses systematic and explicit methods to identify, select, and critically appraise the relevant research, and to collect and analyse data from the included studies

SUPPORT was an international project to support the use of policy relevant reviews and trials to inform decisions about maternal and child health in low- and middle-income countries, funded by the European Commission (FP6) and the Canadian Institutes of Health Research.

Glossary of terms used in this report:
www.supportsummaries.org/glossary-of-terms

Background references on this topic:
See back page

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-support-summaries-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.

Types of	What the review authors searched for	What the review authors found
Study designs & Interventions	Randomised trials comparing midwife-led care to other models of care	15 randomised trials
Participants	Pregnant women	17,674 pregnant women recruited from both community and hospital settings. All studies included low risk pregnancies and five studies also included high-risk pregnancies.
Settings	Community or hospital	Australia (7 studies), United Kingdom (5 studies), Ireland (2 studies) and Canada (1 study).
Outcomes	Primary outcomes: <i>Birth and immediate postpartum</i> - regional analgesia, caesarean birth, instrumental/spontaneous vaginal birth, intact perineum; <i>Neonatal</i> - preterm birth, overall foetal loss and neonatal death Secondary outcomes: complications, procedures or medication use	All primary outcomes and secondary outcomes as antenatal hospitalization, antepartum haemorrhage, induction of labour, amniotomy, augmentation/artificial oxytocin during labour, no intrapartum analgesia/anaesthesia, opiate analgesia, attendance at birth by known midwife, and episiotomy.

Date of most recent search: January 2016

Limitations: This is well-conducted systematic review with only minor limitations.

Sandall J, Soltani H, Gates S, et al. Midwife-led continuity models versus other models of care for childbearing women. Cochrane Database of Systematic Reviews 2016 Issue 4 Art No : CD004667

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.

Midwife-led continuity models versus other models of care for childbearing women and their infants				
People	Pregnant women			
Settings	Community or hospital			
Intervention	Midwife-led continuity models of care			
Comparison	Other models of care			
Outcomes	Other models of care	Midwife-led care	Relative effect (margin of error)*	Certainty of the evidence (GRADE)
	Absolute effect (margin of error)*			
Preterm birth (less than 37 weeks)	63 per 1000	48 per 1000 13 fewer per 1000 (22 to 5 fewer per 1000)	RR 0.76 (0.64 to 0.91)	⊕⊕⊕⊕ High
Overall foetal loss and neonatal death	34 per 1000	29 per 1000 4 fewer per 1000 (11 to 1 fewer per 1000)	RR 0.84 (0.71 to 0.99)	⊕⊕⊕⊕ High
Spontaneous vaginal birth (as defined by trial authors)	658 per 1000	691 per 1000 33 more per 1000 (19 to 46 more per 1000)	RR 1.05 (1.03 to 01.07)	⊕⊕⊕⊕ High
Caesarean birth	155 per 1000	143 per 1000 8 fewer per 1000 (25 to 0 fewer per 1000)	RR 0.92 (0.84 to 1.00)	⊕⊕⊕○ Moderate
Instrumental vaginal birth (forceps/vacuum)	143 per 1000	129 per 1000 14 fewer per 1000 (24 to 4 fewer per 1000)	RR 0.90 (0.83 to 0.97)	⊕⊕⊕⊕ High
Intact perineum	269 per 1000	279 per 1000 10 more per 1000 (14 fewer to 35 more per 1000)	RR 1.04 (0.95 to 1.13)	⊕⊕⊕○ Moderate
Regional analgesia	270 per 1000	229 per 1000 41 fewer per 1000 (59 to 22 fewer per 1000)	RR 0.85 (0.78 to 0.92)	⊕⊕⊕⊕ High

* 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

→ Findings	▷ Interpretation*
APPLICABILITY	
<p>→ All trials included in the review were conducted in high-income countries.</p>	<p>▷ 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.</p> <p>▷ When assessing the transferability of these findings, the following factors should be considered:</p> <ul style="list-style-type: none">– 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	
<p>→ There was no information in the included studies regarding effects of the interventions on disadvantaged populations.</p>	<p>▷ 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.</p> <p>▷ Consideration should be given to how the midwives are recruited, trained, supported and retained in under-served communities, including incentives and regulations encouraging this.</p>
ECONOMIC CONSIDERATIONS	
<p>→ Five studies presented cost data using different economic evaluation methods.</p> <p>→ 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.</p>	<p>▷ Midwife-led care could be cost effective in low-income countries, but this is uncertain.</p>
MONITORING & EVALUATION	
<p>→ No evidence from low-income countries was identified in this review, and the transferability of the evidence to low-income countries is uncertain.</p>	<p>▷ 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.</p>

*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

Additional information

Related literature

Butler M, Collins R, Drennan J, et al. Hospital nurse staffing models and patient and staff-related outcomes. *The Cochrane Database of Systematic Reviews* 2011 (7):CD007019.

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This summary was prepared by

Agustín Ciapponi, Instituto de Efectividad Clínica y Sanitaria, Buenos Aires, Argentina

Conflict of interest

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

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This review should be cited as

Sandall J, Soltani H, Gates S, et al. Midwife-led continuity models versus other models of care for childbearing women. *Cochrane Database of Systematic Reviews* 2016, Issue 4. Art. No.: CD004667.

The summary should be cited as

Ciapponi A. Does midwife-led continuity of care improve the delivery of care to women during and after pregnancy? A SUPPORT Summary of a systematic review. October 2016. www.supportsummaries.org

About certainty of the evidence (GRADE)

The “certainty of the evidence” is an assessment of how good an indication the research provides of the likely effect; i.e. the likelihood that the effect will be substantially different from what the research found. By “substantially different” we mean a large enough difference that it might affect a decision. These judgements are made using the GRADE system, and are provided for each outcome. The judgements are based on the study design (randomised trials versus observational studies), factors that reduce the certainty (risk of bias, inconsistency, indirectness, imprecision, and publication bias) and factors that increase the certainty (a large effect, a dose response relationship, and plausible confounding). For each outcome, the certainty of the evidence is rated as high, moderate, low or very low using the definitions on page 3.

For more information about GRADE:
www.supportsummaries.org/grade

SUPPORT collaborators:

The Cochrane Effective Practice and Organisation of Care Group (EPOC) is part of the [Cochrane Collaboration](http://www.cochrane.org). The Norwegian EPOC satellite supports the production of Cochrane reviews relevant to health systems in low- and middle-income countries. www.epocoslo.cochrane.org

The Evidence-Informed Policy Network (EVIPNet) is an initiative to promote the use of health research in policymaking in low- and middle-income countries. www.evipnet.org

The Alliance for Health Policy and Systems Research (HPSR) is an international collaboration that promotes the generation and use of health policy and systems research in low- and middle-income countries. www.who.int/alliance-hpsr

Norad, the Norwegian Agency for Development Cooperation, supports the Norwegian EPOC satellite and the production of SUPPORT Summaries. www.norad.no

The Effective Health Care Research Consortium is an international partnership that prepares Cochrane reviews relevant to low-income countries. www.evidence4health.org

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