October 2016 – SUPPORT Summary of a systematic review

# Does group antenatal care improve outcomes for women and their babies?

Antenatal care is one of the key preventive health services used around the world, usually involving one-to-one visits with a care provider (midwife, obstetrician or general practitioner). Group antenatal care is a potentially useful alternative strategy.

## Key messages

➔ **In high-income countries, group compared to individual antenatal care probably reduces the number of preterm births, while having little or no effect on the number of low birthweight and small for gestational age newborns; and it may have little or no effect on perinatal mortality.**

➔ **The applicability of the findings of this review to low-income countries is uncertain.**

➔ **The effects, costs and cost-effectiveness of group antenatal care should be evaluated in large randomized trials in low-income countries.**

### Who is this summary for?

People responsible for antenatal care

### ! 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:

Catling CJ, Medley N, Foureur M, et al. Group versus conventional antenatal care for women. Cochrane Database of Systematic Reviews 2015, Issue 2. Art. No.: CD007622.

### 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 Western countries, antenatal care traditionally involves a schedule of one-to-one visits with a care provider. A different way of providing antenatal care is through a group model. Group antenatal care is provided by midwives or obstetricians in groups of eight to 12 women of similar gestational age. The groups meet eight to 10 times during pregnancy for antenatal care, with sessions running for 90 to 120 minutes. With group care there is 12 to 20 hours of accumulated care, compared with two to three hours with conventional antenatal care. Antenatal care integrates the usual antenatal assessment with information, education and peer support. It usually does not include continuity through labour, birth and the postpartum period.

## 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 the effects of group antenatal care versus one-to-one care on outcomes for women and their babies.

| Types of | What the review authors searched for | What the review authors found |
|---|---|---|
| **Study designs & Interventions** | Randomised and nonrandomised trials of group antenatal care | 4 randomised trials were included |
| **Participants** | Pregnant women accessing antenatal care | Pregnant women receiving antenatal care at public (3 studies) and military clinics (1 study) |
| **Settings** | Hospital, clinics or any settings delivering antenatal care worldwide | USA (2 studies), Iran (1 study), Sweden (1 study) |
| **Outcomes** | Primary: Preterm births, low birthweight, small-for-gestational age, perinatal mortality<br>Secondary: Maternal satisfaction, breastfeeding, length of hospital stay, infant Apgar scores, mode of birth, induction of labour, analgesia/anaesthesia use in labour, attendance at antenatal care, care provider satisfaction, cost-effectiveness, etc. | Primary: Preterm births (3 studies), low birthweight (3 studies), small for gestational age (3 studies), perinatal mortality (3 studies)<br>Secondary: admission of baby to neonatal intensive care unit (2 studies), breastfeeding initiation (3 studies), spontaneous vaginal birth (1 study), etc. |
| **Date of most recent search:** October 2014 | | |
| **Limitations:** This is well-conducted systematic review with only minor limitations. | | |

Catling-Paull CJ, Medley N, Foureur M, et al. Group versus conventional antenatal care for women. Cochrane Database of Systematic Reviews 2015, Issue 2. Art. No.: CD007622.

# Summary of findings

Four trials involving a total of 2350 women were included in the review. One study was conducted at two university-affiliated hospital antenatal clinics in the USA. The second study was conducted in antenatal clinics at two military settings in the USA. The third study was conducted in health centres in Iran, and the fourth study was conducted in antenatal clinics in Sweden.

All of the included studies followed CenteringPregnancy principles. CenteringPregnancy is an approach to antenatal care by which care is provided to groups of eight to 12 women. Physical assessments are undertaken as an individual assessment alongside the group to maintain privacy. Groups integrate the usual antenatal assessment with information, education and peer support. Emphasis is placed on engaging women more fully in their own health assessments.

➔ **In high-income countries, group antenatal care probably reduces the number of preterm births, while having little or no effect on the number of low birthweight and small for gestational age newborns. The certainty of this evidence is moderate.**

➔ **In high-income countries, group antenatal care may have little or no effect on perinatal mortality. The certainty of this evidence is low.**

## 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.

## Group antenatal care versus individual antenatal care (adjusted data) for women

**People** Pregnant women accessing prenatal care
**Settings** 2 trials were located in the USA, 1 in Iran and 1 in Sweden
**Intervention** Group antenatal care
**Comparison** Individual antenatal care

| Outcomes | Absolute effect* | | Relative effect (95% CI) | Certainty of the evidence (GRADE) |
|---|---|---|---|---|
| | **Without Group antenatal care** | **With Group antenatal care** | | |
| | **Difference** (Margin of error) | | | |
| **Preterm birth** (gestational age at time of birth less than 37 weeks' gestation) | 105 per 1000 | 79 per 1000 | RR 0.75 (0.57 to 1) | ⨁⨁⨁◯ Moderate |
| | **Difference: 26 fewer per 1000 births** (Margin of error: 45 to 0 fewer) | | | |
| **Low birthweight** (<2500 g) | 89 per 1000 | 82 per 1000 | RR 0.92 (0.68 to 1.23) | ⨁⨁⨁◯ Moderate |
| | **Difference: 7 fewer per 1000 births** (Margin of error: 29 fewer to 20 more) | | | |
| **Small for gestational age** (less than the 10th percentile for gestation and gender) | 104 per 1000 | 96 per 1000 | RR 0.92 (0.68 to 1.24) | ⨁⨁⨁◯ Moderate |
| | **Difference: 8 fewer per 1000 births** (Margin of error: 33 fewer to 25 more) | | | |
| **Perinatal mortality** (stillbirth or neonatal death) | 21 per 1000 | 14 per 1000 | RR 0.63 (0.32 to 1.25) | ⨁⨁◯◯ Low |
| | **Difference: 7 fewer per 1000 births** (Margin of error: 14 fewer to 6 more) | | | |

Margin of error = Confidence interval (95% CI) RR: Risk ratio GRADE: GRADE Working Group grades of evidence (see above and last page)

* The risk WITHOUT the intervention is based on the average risk across studies. The corresponding risk WITH the intervention (and the 95% confidence interval for the difference) is based on the overall relative effect (and its 95% confidence interval).

# Relevance of the review for low-income countries

| ➔ Findings | ▷ Interpretation* |
|---|---|
| APPLICABILITY | |
| ➔ **None of the included studies were from low-income countries.** | ▷ *The effects of group antenatal care might be affected by differences in funding models, the health workforce, and characteristics of the women receiving care. Consequently, the applicability of the findings of this review to low-income countries is uncertain.* |
| EQUITY | |
| ➔ **The review did not report any data regarding differential effects of group antenatal care on disadvantaged populations.** | ▷ *Group antenatal care might reduce inequities, if it increased access to care for underserved populations. However, the review does not provide any data to support or refute this conjecture.* |
| ECONOMIC CONSIDERATIONS | |
| ➔ **None of the included studies reported costs or cost-effectiveness data.** | ▷ *The cost and cost-effectiveness of group antenatal care compared to conventional care are uncertain.* |
| MONITORING & EVALUATION | |
| ➔ **In high-income countries, group antenatal care probably reduces the number of preterm births, while having little or no effect on the number of low birthweight and small for gestational age newborns.** | ▷ *The effects, costs and cost-effectiveness of group antenatal care in low-income countries are uncertain.*<br>▷ *The effects, costs and cost-effectiveness of group antenatal care should be evaluated in large randomized trials 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

# Additional information

## Related literature

Dowswell T, Carroli G, Duley L, et al. Alternative versus standard packages of antenatal care for low-risk pregnancy. Cochrane Database of Systematic Reviews 2015, Issue 7. Art. No.: CD000934.

Rising S, Powell Kennedy H, Klima C. Redesigning prenatal care through CenteringPregnancy. Journal of Midwifery and Women's Health 2004;49(5):398-404.

Patil CL, Abrams ET, Klima C, Kaponda CP, Leshabari SC, Vonderheid SC, et al. CenteringPregnancy-Africa: A pilot of group antenatal care to address Millennium Development Goals. Midwifery. 2013;29(10):1190-8. PubMed PMID: 23871278.

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## Conflict of interest

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

## Acknowledgements

This summary has been peer reviewed by: Christine Catling and Dorothy Oluoch.

## This review should be cited as

Catling CJ, Medley N, Foureur M, et al. Group versus conventional antenatal care for women. Cochrane Database of Systematic Reviews 2015, Issue 2. Art. No.: CD007622.

## The summary should be cited as

Ciapponi A. Does group antenatal care improve outcomes for women and their babies? 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. 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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