



February 2017 – SUPPORT Summary of a systematic review

Does training traditional birth attendants improve pregnancy outcomes?

Traditional birth attendants (TBAs) who assist women are common in low-income countries. Providing formal training to untrained TBAs or additional training on specific tasks could improve care for pregnant women and pregnancy outcomes. Training programmes can differ considerably, making it difficult to make clear distinctions between initial training and additional training that are applicable across different settings.

Key messages

→ **Initial training of TBAs may:**

- **reduce neonatal mortality, stillbirths, maternal mortality, the frequency of haemorrhage, and puerperal sepsis; and**
- **increase referrals of pregnant women with obstetric complications and the frequency of pregnant women with obstructed labour.**

→ **Additional TBA training may:**

- **reduce neonatal mortality; and**
- **lead to little or no difference in stillbirths, maternal mortality, maternal morbidity, exclusive breastfeeding, and advice about immediate feeding of colostrum.**

→ **Most of the included studies were conducted in resource-limited settings in low-income countries.**



Who is this summary for?

People making decisions concerning the use of traditional birth attendants to assist mothers during childbirth

! **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:

Sibley LM, Sipe TA, Barry D. Traditional birth attendant training for improving health behaviours and pregnancy outcomes. *Cochrane Database Syst Rev* 2012; 8: CD005460.

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

A traditional birth attendant (TBA) is a person who assists the mother during childbirth and who initially acquired her skills by delivering babies herself or through an apprenticeship to other TBAs. TBAs are found widely in low- and middle-income countries and it is estimated that they may assist at up to 25% of all births in these settings.

Training for TBAs entails short courses through the modern health sector to upgrade skills. Training programmes can differ considerably, thus making it difficult to make a clear distinction between initial training and additional training that can be applied across studies and settings.

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 assess the effects of initial training or additional training for traditional birth attendants (TBAs) on TBA and maternal behaviours thought to mediate positive pregnancy outcomes, as well as on maternal, perinatal, and newborn mortality and morbidity

Types of	What the review authors searched for	What the review authors found
Study designs & Interventions	Randomised and quasi-randomised trials (including cluster-randomised trials)	4 cluster-randomised trials and 2 randomised trials
Participants	TBAs: a person who assists the mother during childbirth and who initially acquired her skills by delivering babies herself or through an apprenticeship to other TBAs. Mothers and neonates cared for by trained and untrained TBAs or those who are living in areas where such TBAs attend most births.	The TBAs were poorly described in the included studies. They were mostly between 40 and 50 years of age, and had low levels of education. Marital and socio-economic status was generally not reported.
Settings	Rural communities	Studies from rural communities in Bangladesh (2), Guatemala (1), Malawi (1), Pakistan (1), and Zambia (1). One study was conducted in 5 countries (Democratic Republic of Congo, Guatemala, India, Pakistan, and Zambia).
Outcomes	TBA or maternal behaviours thought to mediate positive pregnancy outcomes; maternal mortality; perinatal and neonatal mortality.	Maternal mortality, maternal morbidity, haemorrhage (antepartum, intrapartum, postpartum combined), puerperal sepsis, frequency of obstructed labour, referral to emergency obstetrical care, neonatal mortality, advice about immediate feeding of colostrum, exclusive breastfeeding

Date of most recent search: June 2012

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

Sibley LM, Sipe TA, Barry D. Traditional birth attendant training for improving health behaviours and pregnancy outcomes. Cochrane Database Syst Rev 2012; 8: CD005460.

Summary of findings

The review included six studies conducted in low- and middle-income countries in South America, Africa, and Asia. One study compared training TBAs versus no formal training in the management of normal deliveries and the timely detection and referral of women with obstetric complications. The other five studies evaluated additional training of TBAs. Three studies evaluated additional training in newborn resuscitation. One study focused on immediate suckling before placenta delivery. In the other study, TBAs were given training regarding breastfeeding and weaning techniques.

1) Initial training of TBAs

One study assessed the impact of training TBAs versus no formal training on maternal mortality, maternal morbidity, stillbirths and newborn mortality.

- ➔ **Initial training of TBAs may reduce neonatal mortality, stillbirths, maternal mortality, the frequency of haemorrhage, and puerperal sepsis. The certainty of this evidence is low.**
- ➔ **Initial training of TBAs may increase referrals of pregnant women with obstetric complications and the frequency of pregnant women with obstructed labour. 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.

Training of TBAs						
People	Pregnant women and their children					
Settings	Rural communities in Pakistan					
Intervention	Training of TBAs; delivery kits; training of lay health workers to support TBAs; improved referral					
Comparison	TBAs who had not received formal training					
Outcomes	Comparative risks*		Relative effect (95% CI)	Number of participants (studies)	Certainty of the evidence (GRADE)	Comments
	With untrained TBA	With trained TBA				
Neonatal mortality	39 per 1000	28 per 1000 (24 to 32 per 1000)	RR 0.71 (0.61 to 0.82)	18,699 (1 study)	⊕⊕○○ Low	
Stillbirths	71 per 1000	50 per 1000 (42 to 60 per 1000)	RR 0.71 (0.59 to 0.84)	18,699 (1 study)	⊕⊕○○ Low	
Maternal mortality	4 per 1000	3 per 1000 (2 to 5 per 1000)	RR 0.74 (0.45 to 1.22)	19,525 (1 study)	⊕⊕○○ Low	Women were followed until 42 days post-partum.
Haemorrhage (antepartum, intrapartum, postpartum combined)	27 per 1000	17 per 1000 (13 to 22 per 1000)	RR 0.61 (0.47 to 0.79)	19,525 (1 study)	⊕⊕○○ Low	
Puerperal sepsis	42 per 1000	8 per 1000 (5 to 10 per 1000)	RR 0.17 (0.13 to 0.23)	19,525 (1 study)	⊕⊕○○ Low	
Frequency of obstructed labour	50 per 1000	62 per 1000 (51 to 75 per 1000)	RR 1.24 (1.03 to 1.5)	19,525 (1 study)	⊕⊕○○ Low	
Referral to emergency obstetrical care	70 per 1000	102 per 1000 (82 to 125 per 1000)	RR 1.45 (1.17 to 1.19)	19,525 (1 study)	⊕⊕○○ Low	

CI: Confidence interval RR: Risk ratio GRADE: GRADE Working Group grades of evidence (see above and last page)
 *Illustrative comparative risks. The assumed risk WITHOUT the intervention is based on one study. The corresponding risk WITH the intervention (and its 95% confidence interval) are based on the overall relative effect (and its 95% confidence interval).

2) Additional training of TBAs

Five studies evaluated the impact of providing additional training of TBAs who already have some formal training. Three interventions provided TBAs with additional training on resuscitation of newborns, and two interventions focused on breastfeeding.

- **Additional training of TBAs may reduce neonatal mortality. The certainty of this evidence is low.**
- **Additional training of TBAs may lead to little or no difference in stillbirths, maternal mortality, maternal morbidity, exclusive breastfeeding, and advice about immediate feeding of colostrum. The certainty of this evidence is low.**

Additional training of TBAs						
People	Pregnant women					
Settings	Rural communities in Bangladesh, Democratic Republic of Congo, Guatemala, India, Malawi, Pakistan, Zambia					
Intervention	TBAs receiving additional training: newborn resuscitation, breastfeeding					
Comparison	TBAs not receiving additional training					
Outcomes	Impacts		Relative effect (95% CI)	Number of participants (studies)	Certainty of the evidence (GRADE)	Comments
	Comparative risks*					
	TBA without additional training	TBA with additional training				
Neonatal mortality (0 to 6 weeks)	26 per 1000	22 per 1000 (18 to 26 per 1000)	RR 0.83 (0.68 to 1.01)	37,494 (3 studies)	⊕⊕○○ Low	Potential recruitment bias and contamination
Maternal mortality	0.7 per 1000	0.5 per 1000 (0 to 9 per 1000)	RR 0.79 (0.05 to 12.62)	3437 (1 study)	⊕⊕○○ Low	Only one small study reported maternal death
Stillbirths	1,6 per 1000	1,6 per 1000 (12 to 20 per 1000)	RR 0.99 (0.76 to 1.28)	27,594 (2 studies)	⊕⊕○○ Low	Potential recruitment bias and contamination
Maternal morbidity	The impact of additional TBA training on maternal morbidity outcomes (haemorrhage, infections, obstructed labour and referral to emergency) is uncertain.			4227 (1 study)	⊕⊕○○ Low	Only one small study reported maternal morbidity outcomes
Breastfeeding exclusively	971 per 1000	968 per 1000 (971 to 989 per 1000)	RR 1.01 (1.00 to 1.01)	3437 (1 study)	⊕⊕○○ Low	Only one small study reported maternal morbidity outcomes
Advice about immediate feeding of colostrum	795 per 1000	843 per 1000 (708 to 922 per 1000)	RR 1.06 (0.89 to 1.16)	165 (1 study)	⊕⊕○○ Low	Only one small study reported maternal morbidity outcomes

CI: Confidence interval RR: Risk ratio GRADE: GRADE Working Group grades of evidence (see above and last page)
 *Illustrative comparative risks. The assumed risk WITHOUT the intervention is based on the median of the studies included for each outcome. The corresponding risk WITH the intervention (and its 95% confidence interval) are based on the overall relative effect (and its 95% confidence interval).

Relevance of the review for low-income countries

→ Findings	▷ Interpretation*
APPLICABILITY	
<p>→ Most of the included studies were conducted in low-income countries.</p>	<p>▷ Findings are applicable to similar settings where access to care for pregnancy and childbirth is poor. Factors that need to be considered in assessing whether the intervention effects are likely to be transferable to other settings include:</p> <ul style="list-style-type: none">- an existing network of active TBAs that can be targeted for further training;- the proportion of all births conducted by TBAs;- the scale up of skilled birth attendants and the promotion of institutional delivery in the setting;- referral access to improved health services;- resources to provide clinical and managerial support for TBAs;- acceptance of non-professional providers within the formal health system;- cultural norms and values regarding pregnancy, childbirth and child rearing;- local causes of maternal and perinatal ill-health and death;- women's ability to access healthcare.
EQUITY	
<p>→ Most of the included studies were conducted in rural communities in low-income countries but provided little data on the socio-economic status of the participants or on the differential effects of the interventions on disadvantaged populations.</p>	<p>▷ TBA training might reduce inequities in health experienced by disadvantaged populations by facilitating timely referral of pregnant women where improved health services are available.</p>
ECONOMIC CONSIDERATIONS	
<p>→ The included studies did not report any cost or cost-effectiveness data.</p> <p>→ The findings summarised here are based largely on randomised trials in which the levels of organization and support were potentially higher than those available in routine settings.</p>	<p>▷ Local costing studies may be needed prior to implementing training for TBAs.</p> <p>▷ Further primary studies and cost-effectiveness studies also may be needed to inform decision-making.</p> <p>▷ Providing adequate support to programmes may be important to intervention effectiveness when scaling up.</p>
MONITORING & EVALUATION	
<p>→ High quality evidence of the effects of providing initial or additional training to TBAs is not yet available for a range of important health outcomes.</p> <p>→ In several of the studies, the reliability of outcome measures was unclear.</p>	<p>▷ If TBA training programmes are implemented, this should be in the context of robust evaluation. This should include evaluation of costs and the process of implementing such programmes.</p> <p>▷ Valid, reliable and inexpensive methods are needed to measure pregnancy and childbirth outcomes in response to community-based TBA training interventions.</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

Wilson A, Gallos ID, Plana N, et al. Effectiveness of strategies incorporating training and support of traditional birth attendants on perinatal and maternal mortality: meta-analysis. *BMJ* 2011; 343:d7102.

Lehmann U, Sanders D. Community health workers: what do we know about them? The state of the evidence on programmes, activities, costs and impact of health outcomes of using community health workers. World Health Organization, 2007.

Lewin SA, Dick J, Pond P, et al. Lay health workers in primary and community health care. *Cochrane Database Syst Rev* 2005; 1: CD004015.

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Conflict of interest

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

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The summary should be cited as

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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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