

Cochrane Review Summary: Community-based intervention packages for reducing maternal and neonatal morbidity and mortality and improving neonatal outcomes



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Review question

Are community-based intervention packages effective in reducing maternal and neonatal morbidity and mortality, and improving neonatal outcomes?

Relevance to primary care and nursing

Primary health-care professionals, particularly nurses, have a key role in improving maternal health and reducing child mortality (Department of Health, 2010; Department of Health, Partnerships for Children, Families and Maternity, 2011).

Characteristics of the evidence

This Cochrane review contained 26 randomised-controlled trials (RCTs), of which 24 were cluster randomised, one was a controlled clinical cluster trial and one a quasi-RCT, targeting women of reproductive age, mainly pregnant women at any period of gestation (Lassi and Bhutta, 2015). They were mostly conducted in developing countries with one study based in Greece and covered a wide range of intervention packages delivered in

community settings. These included training of health-care workers [such as community midwives, health visitors and workers (CHW) facilitators, traditional birth attendants (TBA) and outreach workers (community residents)] in maternal and neonatal care. Control groups received usual maternal and neonatal services.

Summary of key evidence

Approximately half the studies were overall at low risk of bias, with almost all studies having minimal selection bias due to cluster randomisation. Many studies however were rated as having unclear risk of bias regarding attrition and blinding and varied in follow-up periods. Meta-analysis was conducted where appropriate, although results were heterogeneous. Evidence is summarised according to outcomes. Average risk ratios (RR) are given with 95% confidence intervals (CI) for primary outcomes. The number of studies and participants are shown in parentheses.

Primary outcome

Maternal mortality (maternal deaths (death while pregnant or within 42 days of termination) per live birth)

There was a small reduction (11 studies, $n = 167\,311$; RR 0.80, 95% CI 0.64–1.00) but no

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significant impact for intervention packages that included support groups, packages that mobilised the community and conducted home visits or training packages for TBAs, followed by home visits.

Neonatal mortality (neonatal deaths from any cause among total live births)

There was a significant reduction in overall mortality by 25% (21 studies, $n = 302\,464$; RR 0.75, 95% CI 0.67–0.83) and significant reductions in early (deaths in first week of life) (11 studies, $n = 131\,017$; RR 0.67; 95% CI 0.58–0.77) and late (deaths from seven to 28 days of life) (11 studies, $n = 148\,822$; RR 0.74; 95% CI 0.65–0.86) neonatal mortality. Community packages that included support/advocacy groups (16%, nine studies, $n = 155\,509$; RR 0.84, 95% CI 0.73–0.96) were effective in reducing total and early deaths. Community mobilisation (CM) with added home-based neonatal care significantly reduced total neonatal deaths (one study, $n = 4248$; RR 0.66, 95% CI 0.47–0.93).

Secondary outcomes

Perinatal mortality, stillbirths, maternal morbidity, iron/folate supplementation and tetanus immunisation, referral to health facility, skilled birth attendance, use of clean delivery kits, birthweight and breastfeeding rates, infant's weight and height.

CM, education and home visits by CHWs, which focussed on antenatal/early newborn care can reduce perinatal deaths (by 22%) and stillbirths (by 19%). Packages that consisted of CM and involved midwives visits significantly reduced stillbirths (by 46%). Whilst packaged interventions can improve breastfeeding and health-care seeking for neonatal morbidities, the studies were very heterogeneous. However, antepartum newborn care and breastfeeding education to mothers doubled the rates of initiation of breastfeeding. The interventions can be effective on tetanus immunisation, use of clean delivery kits, improving rates for institutional deliveries but no overall impact on increasing skilled birth attendance.

Implications for practice

Community-based interventions can be packaged within existing maternal and newborn care and delivered through a range of community health workers. Family involvement through community support and advocacy groups and CM and education strategies, home visits by trained CHWs and improving referrals are particularly important.

Implications for research

More high-quality studies are required to examine costs of delivering community-based packages, as well as evaluate effectiveness in other settings.

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Conflicts of Interest

None.

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