

Traditional birth attendant training for improving health behaviours and pregnancy outcomes

In one trial, the most promising interventions for reducing perinatal mortality and morbidity were training traditional birth attendants in better perinatal care practices and strengthening linkages with, and improving the quality of, maternal health-care services. To generate conclusive evidence of effectiveness of this intervention further trials are needed urgently.

RHL Commentary by MacArthur C

1. EVIDENCE SUMMARY

This Cochrane review was published in July 2007. It includes four studies: one cluster randomized controlled trial conducted in Pakistan; two individual randomized controlled trials conducted in Bangladesh and Malawi; and one controlled before–after study conducted in Guatemala. Over 2000 traditional birth attendants (TBAs) and 27 000 women were involved in these trials, with most women (over 19 500) participating in the cluster randomized controlled trial.

The review was a narrative one: only two outcomes (perinatal death and referral) were reported in more than one study. However, because one study reported these outcomes only for a subset of the study sample, it was not possible to pool the data.

1.1. Interventions

The reviewers classified three of the studies as comparing additional training versus basic training, since in two studies a high proportion of TBAs had previously undergone government-sponsored training, and in the third study TBAs were trained in both arms of the study. The fourth (Pakistan) study was classified as comparing trained versus untrained TBAs.

The Pakistan and Guatemala trials trained TBAs with the aim of improving: (i) management of normal delivery; (ii) timely detection and referral of women with obstetric complications; and (iii) linkages between TBAs and essential obstetric care services. The other two studies focused on training TBAs in aspects of breastfeeding: one (Bangladesh) trained TBAs in general breastfeeding, and the other (Malawi) trained them in the promotion of immediate suckling to prevent postpartum haemorrhage.

1.2. Outcomes

1.2.1. Mortality

The trial in Pakistan found a significant effect of TBA training on perinatal mortality, with a 30% reduction (823 versus 1077 deaths), corresponding to rates of 85 versus 120 deaths per 1000 live births and stillbirths in the intervention versus control groups, respectively. The cluster adjusted odds ratio (OR) was 0.70; 95% confidence interval (CI) 0.59–0.83. Maternal mortality was reduced by a similar amount (26%), but was not statistically significant.

The before–after study in Guatemala measured perinatal mortality in a subset of women referred by TBAs to an improved health-care facility, which was available to women in both the intervention and control areas. Among women referred by TBAs before and after the intervention, mortality was significantly reduced from 22% to 12%; among referred women in the control area there was a non-significant reduction in mortality from 17% to 12%. The difference in mortality reduction between the intervention and control areas was not statistically significant (OR 1.02; 95%CI 0.59–1.76).

The trial in Malawi, which promoted early suckling to prevent postpartum haemorrhage, also reported stillbirths and neonatal deaths, but this was not reported in the review. Compatible with the lack of effect on postpartum haemorrhage (see below), there was no difference in mortality (20 versus 19 stillbirths/neonatal deaths).

1.2.2. Referral

The Pakistan study found a significantly greater rate of referral in the clusters with trained TBAs (OR 1.50; 95%CI 1.18–1.90), although the referral rate overall was low, at 10% (intervention groups) versus 7% (control groups). The study in Guatemala found an increase over time in mean monthly referrals within both intervention and control areas, but there was no difference between the areas.

1.2.3. Breastfeeding

The Bangladesh study found a significant increase in the proportion of TBAs who advised on timing of the introduction of complementary foods at three and seven month follow-up in the intervention versus the control group, but no difference was found in advice on the immediate feeding of colostrum. No findings were reported on the feeding behaviour of mothers.

1.2.4. Morbidity

The Pakistan trial found a significantly lower frequency of haemorrhage (ante-/intra-/postpartum) and puerperal sepsis in the intervention versus the control groups, and significantly greater incidence of obstructed labour. The Malawi study found no difference in postpartum haemorrhage or mean blood loss in the group of TBAs trained to advise on immediate suckling.

1.3. Conclusions of the review

The review's main conclusions were that the potential to reduce perinatal-neonatal mortality by TBA training and health service linkage, alongside improvement in maternal health services, is promising but the number of studies is insufficient to provide enough evidence to establish effectiveness.

2. RELEVANCE TO UNDER-RESOURCED SETTINGS

2.1. Magnitude of the problem

Reduction of maternal and infant mortality are two key targets of the Millennium Development Goals. Each year, almost four million newborns die before the first month and a similar number are stillborn. In addition, over half a million mothers die each year as a result of childbearing, with the vast majority of the deaths occurring in under-resourced settings.

About 43% of all live births are attended by TBAs (including relatives) in under-resourced settings and in some rural areas this proportion is much higher (e.g. 80% in the Pakistan study). (1) Although a skilled birth attendant for all women is obviously the ideal, in many developing countries, even if such workers were acceptable, there is insufficient availability and the poor rural areas do not offer attractive employment options. It may therefore be many years before this is a feasible option.

2.2. Applicability of the results

All the pregnancy outcomes and health behaviours included in this review are relevant to reducing maternal and neonatal mortality. In principle, the results of the review are applicable to the many under-resourced settings in which TBAs attend a high proportion of deliveries.

2.3. Implementation of the intervention

Given so few good quality studies, to provide the evidence needed to establish TBA training effectiveness it would seem appropriate to recommend implementation only in the context of concurrent robust evaluation, preferably randomized.

3. RESEARCH

The findings of this review indicate a clear need for more primary studies, which must be controlled trials (preferably

randomized), since many studies had to be excluded from the review because their designs had a high likelihood of bias. The most promising interventions found to reduce perinatal mortality were training TBAs in better perinatal care practices and strengthening linkages with, and improving the quality of, maternal health-care services. Although based on only one trial of just under 20 000 women, these interventions were so promising that it would be appropriate to undertake similar studies urgently in order to obtain further evidence. This would require very large trials to provide evidence on maternal mortality, but meta-analyses of data from smaller trials could also achieve this objective. Comparisons of maternal and neonatal morbidity are also important. Cluster randomization of programme implementation would be a practicable and efficient way of generating evidence.

References

1. Sibley L, Sipe TA, Koblinsky M. Does TBA training increase use of professional antenatal care services: a review of the evidence. *Journal of Midwifery and Women's Health* 2004;49(4):298-305.

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