

Community Based Newborn Care

The recent meta-analysis on this topic [1] was useful but its limitations may confuse policymakers. First, the objective was to conduct a meta-analysis on the effect of care by community health workers (CHWs) on newborn mortality (NMR) in resource-limited settings, but our women's group trials in Nepal, Jharkhand and Orissa, and Bangladesh did not use CHWs. Lay women were the facilitators of groups.

Second, would a journal publish a meta-analysis of micronutrient supplementation with a combined effect of trials of iron, vitamin A, and zinc? Clearly not, since these are quite different interventions. Likewise, "supply-side" CHW programs to provide home visits are different from "demand-side" mobilization of women's groups by lay facilitators. Any overall effect size has little meaning if some are small-scale efficacy studies and others larger-scale trials of community effectiveness. Also, trials of traditional health education to provide "messages" to women or health workers are neither the same nor as effective as participatory approaches where women actively seek strategies to reduce mortality risk.

Third, the abstract ignored large mortality reductions from women's group trials and focused only on home visits on the two days after birth. For trials like Hala, Pakistan, and Shivgarh, India, which had both community groups and home visits, one cannot disentangle the effects. The only trial that supported the conclusion about home visits was not replicated in scale-up studies [2-4]. Early home visits are the preference of funding agencies, but conclusions must be based on evidence. Coverage and timing are important, but so are quality of supervision, antenatal contact, refresher training, and availability of antibiotics.

The review provides four important conclusions:

1. Newborn mortality reduction does not simply depend on health worker contact. Participatory women's groups substantially reduce NMR where baseline mortality is above 30 per 1000, and at least one quarter of newly pregnant women enrol. This approach can be scaled up in India through the accredited social health activist (ASHA) cadre, although further evaluation at scale is needed [5].
2. CHWs providing home visits can reduce mortality above a critical coverage and with good links to facilities.
3. The prevention and prompt treatment of sepsis is a

critical component of community newborn care [6]. However evidence for impact of asphyxia management and community resuscitation after home delivery is weak.

4. A combination of home visits and community mobilisation through women's groups is the best way forward. Critical questions are operational and centre on coverage, support and management of CHWs.

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REPLY

1. It may be pertinent to point out the objective of the systematic review and meta-analysis was to evaluate the effect of community based neonatal interventions on neonatal mortality in resource limited settings and

not the effect of community health workers on neonatal mortality. We accept the error that the abstract has it wrong (vide the full text of the manuscript for the correct objective).

2. While it is true that overall effect size combining different community level neonatal interventions could have difficulties in interpretation, it may be pointed out that the systematic review also provides a sub group analysis by type of interventions (Fig.3) [1]. It may also be pointed out that health interventions are never “pure” interventions and there are bound to have overlaps with multitude of other interventions in varying proportions. Realizing this complexity, the review used the best possible categorization of the

interventions with least possible of overlaps (Table 1 and Figure 2 of the manuscript).

3. We accept that the abstract does not do justice to all the community based neonatal interventions, but the full text does.

We do not believe that the review would confuse policy makers. The review clearly underscores the complexity of neonatal care interventions especially at the community level and provides (as summarized by the authors of this correspondence) the possible strategies, likely impact and the conditions that are required to make these interventions work.

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Whole Body Cooling in Newborn Infants with Perinatal Asphyxial Encephalopathy

It is encouraging to see trials in progress addressing hypothermia in resource poor settings. I compliment the team at Vellore for this study [1]. There are some points in the study which the authors might want to clarify for their readers.

The rectal temperatures in this study are mean temperatures over time. What is difficult to infer from the paper is the duration that their subjects were outside the target temperature range, and further what extremes of temperature were encountered below the target temperature of 33 degree C. This is very important for understanding the safety of this method. A study published by Hoque, *et al* comparing different methods of cooling shows that the target rectal temperature of between 33.5 +/- 0.5 was within target temperature(+/-0.5 degree C), for 81% in infants cooled using a mattress for cooling manually, and 74% in infants who were cooled with gloves. Mean overshoot was 0.3 degree C for servo controlled whole body cooling, 1.3 degrees C for whole body cooling using a manually controlled mattress [2]. The variation in the mean rectal temperature from target temperature during the period of cooling was 0.08 ± 0.04°C in this study, which betters the servo controlled device used in Hoque’s study. Considering this was possible with 1:3 nursing support using a passive cooling method is exceptional.

A further point to emphasize is that Western trials for therapeutic hypothermia have kept very strict criteria for

recruitment. 11 of the 20 neonates were outborn who were recruited on criteria which don’t meet definite criteria for perinatal asphyxia such as in the TOBY trial [3]. It is mentioned there was significant acidosis among inborn babies at admission, not the outborn. This raises a slight question of the representativeness of the sample in this trial. Why were outborn neonates recruited at all? If these neonates had neonatal encephalopathy due to other causes they might not have shown the complications that moderately to severely asphyxiated neonates display when cooled?

The surface temperatures correlated with the rectal temperatures very well in this study, probably a reflection of the narrow range of environmental temperatures. A recent study using passive cooling as part of a strict protocol showed there is poor correlation between the two. Continuous rectal temperature monitoring remains the standard for monitoring during therapeutic hypothermia and should be the standard whether using active or passive cooling methods [4].

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