

Antenatal corticosteroids to reduce preterm deaths in low-income settings

Authors' reply

We agree with many of the correspondents' points. First, we concur that antenatal corticosteroid treatment can reduce respiratory distress in infants born at less than 34 weeks' gestation. Second, we welcome the rapid scale-up of its use in hospitals in Malawi, as described by Stephen Kaliti, and look forward to the published assessment of its effect on mortality in preterm infants. Third, we agree that more research is needed to explore the best methods for scale-up in hospitals and to assess the risks and benefits to patients through community studies in low-income regions. Particularly, we anticipate findings of a trial of antenatal corticosteroid treatment that is underway in several countries and in which 90 000 infants have been enrolled.

Conversely, we are not in agreement with Joy Lawn and colleagues who suggest that it is, "extremely unlikely, statistically, that antenatal corticosteroids would be shown not to work in African or Asian babies". Our point about the potential risks associated with antenatal corticosteroid scale-up was not a question of efficacy, or ethnicity, but instead the underlying risks and benefits of antenatal corticosteroids to populations in low-income regions and different levels of access to health care. These factors can strikingly change the benefit-to-risk ratio of interventions. For example, in low-income regions in south Asia and Africa, dietary vitamin A supplementation in rural populations and participatory women's groups had a large effect on child survival, but

there is no evidence of a similar effect in populations in high-income regions in the USA or Europe.^{1,2}

Our concern arose because of reports implying that antenatal corticosteroids could be scaled up as a vertical treatment administered to women with signs of preterm labour by community health-care workers, or at outreach clinics without specialised level-2 health-care facilities. Two potential risks from this setting could outweigh the benefits: the possibility that the number needed to treat, to save the life of a preterm infant, could increase the incidence of serious sepsis in mothers, and second, death or disability might occur later as a result of suboptimal preterm care.

Globally, 40 million women deliver their babies at home every year and many more face formidable economic, cultural, and geographical barriers to accessing good-quality maternity health care. Many of these women live in low-income regions and rural populations in Africa and south Asia and endure high levels of malnutrition, especially a lack of micronutrients and protein, malaria, anaemia, and worm infestations that combined with the immunosuppressive effect of pregnancy or HIV infection might increase their vulnerability to sepsis. In the USA, chorioamnionitis affects 9% of pregnancies, but the burden of placental infection is much higher in Africa and Asia.^{3,4} We agree with Caroline Crowther and Julie Brown that a paucity of evidence exists for the effect of dexamethasone on maternal infection, anywhere, and a complete absence of evidence exists in low-income settings. Health-care workers need to be sure, however, that antenatal corticosteroids do not exacerbate the severity, or the dissemination, of maternal infections in these communities.

Stephen Kaliti suggests that, "antenatal corticosteroids are likely to

have a greater effect in the absence of level 2 care, not a lesser effect", but the evidence to support this statement is weak. Any policy to extend antenatal corticosteroid delivery to mothers through community health-care workers in regions where access to good-quality specialised care is not available (and where the assessment of gestational age and duration of pregnancy is often unreliable) should be on the basis of randomised community effectiveness trials. The risks and benefits can then be measured in the same way that those of dietary vitamin A, chlorhexidine, and zinc supplementation have been assessed in populations in low-income regions.^{5,6} We urge funders to support these studies.

We declare that we have no competing interests.

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