INTRODUCTION

Vitamin A deficiency is a public health problem in more than half of all countries, especially in Africa and South-East Asia, hitting hardest young children and pregnant women in low-income countries (1).

In countries where vitamin A deficiency is a public health problem, WHO and UNICEF recommend periodic, high-dose vitamin A for 6-59 month old children, either as routine programmes or linked to sick-child visits and national poliomyelitis immunization days (1). This is based on a systematic review of published evidence from sub-Saharan Africa and South-East Asia that showed a 23% reduction in child mortality with this intervention (2).

Whether vitamin A supplementation should be extended to infants less than 6 months of age has been a subject of research for over a decade. Randomized controlled trials in 1-5 month old infants, including large WHO supported multi-centre trials, showed no benefit vitamin A supplementation (50,000 I.U. or 100,000 I.U. single dose or 25,000 I.U. given three times) on mortality, morbidity and growth during follow up period (3-5). Randomized controlled trials of neonatal vitamin A supplementation, including two large trials published in 2008, have reported inconsistent effects of the administration of a 50,000 IU vitamin A dose on infant mortality (6-10). Currently, the Model List of Essential Medicines for Children lists a 50000IU capsule, and an oral oily solution, 100000IU/ml that would be indicated and probably used for this purpose.

The authors of a paper on effective nutritional interventions published in the Lancet considered published literature and one of the unpublished studies at the time of publication of their paper and suggested this intervention could be recommended for Asia and not for Africa (11). This recommendation has been contested (12, 13). In order to look at the issue comprehensively, WHO commissioned a systematic review of literature on the efficacy of neonatal vitamin A supplementation in reducing infant mortality and morbidity. This report has not yet been published in full but a brief summary of it is provided below; the full manuscript has been submitted for publication.
RESULTS OF A SYSTEMATIC REVIEW OF EFFICACY OF NEONATAL VITAMIN A IN REDUCING INFANT MORTALITY

The systematic review identified 6 randomized controlled trials (RCTs) that had examined the effect of vitamin A supplementation in the neonatal period on infant mortality in high mortality settings, 3 trials that reported effects on morbidity and 5 that had investigated adverse effects (14).

Among the 6 RCTs that considered mortality outcomes, 4 were conducted in Asia and 2 in Africa. Two of the trials were cluster-randomized and the remaining were individually randomized. All studies used a single 50,000 I.U dose, except the study in India that used two doses of 24,000 I.U. There was no evidence of publication bias.

Meta-analysis indicated no evidence of a significant effect of the intervention on mortality during the neonatal period or during infancy. Study factors including attrition rate, concurrent maternal vitamin A supplementation, number of vitamin A doses, period of follow up and region where the study was conducted did not explain differences in results among studies. There was no evidence of reduction of diarrhoea or pneumonia specific mortality in 3 studies that reported cause-specific mortality. Effects on morbidity were inconsistent.

No significant risk of adverse effects was documented in association with neonatal vitamin A supplementation.

RATIONALE FOR THE PROPOSAL

Currently, WHO does not recommend preventive neonatal vitamin A supplementation (1). The findings of the systematic review of evidence do not support a change in this recommendation. There is currently insufficient evidence that preventive neonatal vitamin A supplementation reduces mortality and morbidity during infancy.

PROPOSAL

WHO should confirm the recommendation indicating that vitamin A supplementation of neonates with a 50,000 I.U. dose is not recommended to prevent infant mortality and morbidity in high child mortality settings.

The Expert Subcommittee is requested to consider adding a note in the EMLC to specify that vitamin A supplementation of neonates for preventing infant mortality and morbidity in high child mortality settings is not an indication for the use of the 50,000 I.U. or 100,000 IU formulation of vitamin A.
REFERENCES


