Vitamin A Supplementation, Infectious Disease, and Child Mortality: A Summary of the Evidence

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Next year will mark the 100th anniversary of the isolation of ‘fat soluble A’ by McCollum and Davis [1]. Although interest in vitamin A (VA) waned over much of the subsequent century, a renewal of interest in the 1980s led to numerous randomized trials testing the efficacy of VA supplementation on adverse outcomes among preschool age children, infants and neonates, and pregnant and lactating women [2]. In this chapter, we provide an overview of the epidemiological evidence on routine preventive VA supplementation of neonates, infants, and children. VA supplementation of children aged 6–59 months has been well studied, and meta-analyses have consistently demonstrated effects on all-cause mortality; yet, its mechanisms and the reasons for heterogeneous effects on mortality across trials continue to be debated. Recent meta-analysis of cause-specific mortality suggests beneficial effects on diarrhea, with null but potentially beneficial effects also present for measles mortality, lower respiratory infection, and meningitis. Some evidence suggests that pneumonia severity may increase with VA supplementation in this age group, particularly among well-nourished children. Maternal supplementation with VA during pregnancy has not shown benefits on neonatal mortality in large trials. A recent meta-analysis suggested that high-dose supplementation of lactating women immediately following delivery did not affect child survival. There is still uncertainty around the benefits of neonatal VA supplementation that should be resolved once the findings of ongoing trials are reported.
References