

# *Zinc supplementation for the treatment of measles in Children: a Cochrane Systematic Review*

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**Background:** Measles is still an important cause of childhood morbidity and mortality globally despite increasing vaccine coverage. It is an acute viral infection characterized by high fever and maculopapular rash. Measles is frequently complicated by acute lower respiratory infection which is commonly associated with mortality. Zinc deficiency is also prevalent among this population especially in children in low-income countries. Because of the significant role zinc plays in the maintenance of normal immunologic functions, supplements given to zinc-deficient children will increase the availability of zinc and could reduce measles related morbidity and mortality in children.

**Objectives:** To assess the effects of zinc supplementation in reducing morbidity and mortality in children with measles.

**Search methods:** We searched CENTRAL 2014 Issue 5, MEDLINE (1946 to June week 3, 2014), EMBASE (1974 to June 2014), CINAHL (1981 to June 2014), LILACS (1982 to June 2014), Web of Science (1985 to June 2014) and BIOSIS Previews (1985 to June 2014). We also searched ClinicalTrials.gov and the World Health Organization (WHO) International Clinical Trials Registry Platform (ICTRP) to identify unpublished and ongoing studies (June 2014). We studied the reference lists of the included studies and relevant review articles for additional

references and contacted trial authors to seek further published studies.

**Selection criteria:** Randomized controlled trials (RCTs) and quasi-RCTs evaluating the effects of zinc in reducing morbidity and mortality in children with measles. Data collection and analysis: Two review authors assessed the studies independently for inclusion and extracted data on outcomes, details of the interventions, and other study characteristics using a standardized data extraction form. Relative risk and hazard ratio with 95% confidence intervals (CI) were used as the measures of effect. We included only one study and we did not conduct any meta-analysis.

**Main results:** One randomized controlled trial met our inclusion criteria. The study was conducted in India and included 85 children diagnosed with measles and pneumonia. One child in the placebo group died of septicaemia (risk ratio (RR) 0.34, 95% confidence interval (CI) 0.01 to 8.14, one study, n = 85). Duration of fever was similar in both groups. No treatment-related side effects were reported in either group. The study was of good methodological quality but was not adequately powered with very few event rates. We assessed the quality of evidence using the GRADE approach. The overall quality of evidence can be described as low-quality. Further research is very likely to have an important impact on our confidence in the estimate of effect on the main outcomes and is likely to change the estimate