# Evidence Update

*Summary of a Cochrane Review*

**Malaria Series**

## Should young children living in malarial areas be given iron every day?

Iron supplements do not increase the risk of malaria illness or death in children living in malarial areas.

### Background

In areas where anaemia is common, children are sometimes given iron supplements. However, iron may increase children's susceptibility to malaria. A trial from Tanzania suggested iron is harmful.

### Inclusion criteria

**Studies:**

Randomized controlled trials.

**Participants:**

Children less than 18 years living in a malaria-endemic area.

**Intervention:**

Orally administered iron, excluding fortified food and drinks. Trials where iron supplements were combined with folic acid or antimalarial drugs, or where other micronutrients were included in both trial arms, were included.

**Outcomes:**

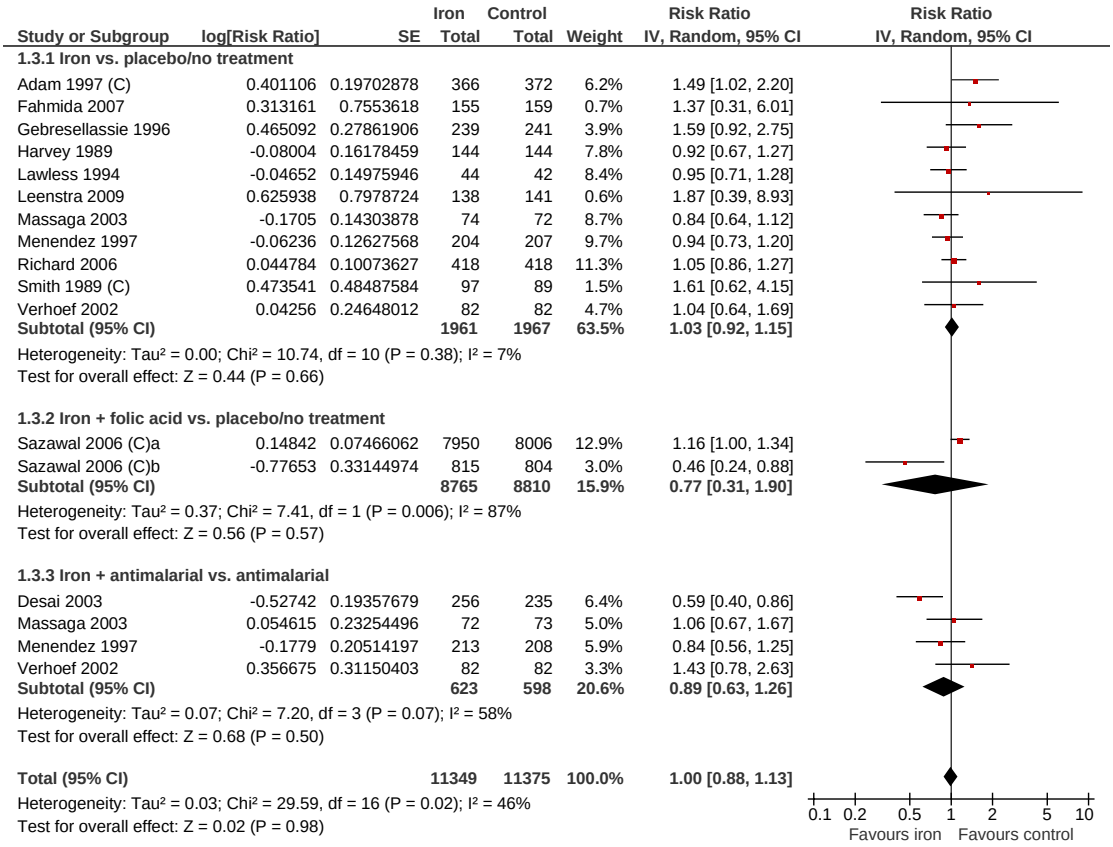
Malaria, death, anaemia, other infections.

### Results

- Sixty-eight trials involving 42,981 children were included. Allocation concealment was adequate in 28 trials.
- Iron supplementation did not increase the risk of clinical malaria (relative risk 1.00, 95% confidence interval 0.88 to 1.13; 22,724 children, 14 trials, random-effects model). The risk was similar in trials where most children did not have anaemia, and where over 50% had anaemia at the start of the trial.
- The risk of malaria parasitaemia at end of treatment was higher with iron for all trials (RR 1.13, 95% CI 1.01 to 1.26; 3184 children, 8 trials), but there was no difference in adequately concealed trials (6 trials).
- There was no increased risk of death across all trials comparing iron versus placebo (RR 1.11, 95% CI 0.91 to 1.36; 21,272 children, 12 trials). Growth and other infections were not affected by iron supplementation.

Adapted from Ojukwu JU, Okebe JU, Yahav D, Paul M. Oral iron supplementation for preventing or treating anaemia among children in malaria-endemic areas. *Cochrane Database of Systematic Reviews* 2009, Issue 3. Art. No.: CD006589. DOI: 10.1002/14651858.CD006589.pub2. *Evidence Update* published in March 2010.

## Iron +/- folic acid supplements versus placebo: clinical malaria




## Authors' conclusions

Iron supplementation does not increase the risk of clinical malaria or death in children living in malaria-endemic areas.

### Implications for practice:

There are no reasons to withhold routine iron supplementation from children living in malaria-endemic countries. There is no need to screen for anaemia prior to iron supplementation.

### Implications for research:

Further large well-designed trials and long-term observational studies are needed to clarify some of the remaining questions such as overall mortality, growth and developmental outcomes.


**Produced by the Effective Health Care Research Consortium (www.liv.ac.uk/evidence), Liverpool School of Tropical Medicine, supported by the Department for International Development UK. *Evidence Update* can be distributed free of charge.**

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