**Introduction:** Although universal provision of iron supplements to children is recommended by the WHO, it is not yet clear whether the administration of the supplements poses a risk or not in children in malaria endemic areas. We investigate the effects of iron supplementation in children with post-malaria anaemia and haematological response with immediate and delayed (2 weeks) iron administration.

**Methods:** A randomised double blind clinical trial was conducted in Zomba and Blantyre between 2009 and 2013. All children aged 4 to 36 months with uncomplicated malaria and with iron deficiency were enrolled into the study. Malaria treatment was administered to all the children and they were randomly assigned to 3 groups as follows: immediate iron administration, delayed iron administration, or placebo. The children were followed up for 10 weeks, with their haematological recovery indices and adverse effects being monitored at 2, 4, 8 and 10 weeks. The primary outcome of the study was the proportion of children without anaemia (defined as Hb >10.9 g/dl) at the end of the iron supplementation period.

**Results:** A total of 538 participants were randomised to immediate iron administration (n=183), delayed iron administration (n=183), or placebo (n=172). The incidence rate ratio (IRR) of being non-anaemic at the end of the follow-up period (10 weeks post-malaria infection) was 1.51 (95% CI 1.17 – 1.94, p <0.001) among immediate group versus the placebo group. There was no significant difference between delayed and placebo group (IRR 1.18, 95% CI 0.91 – 1.55). Secondary analysis of risk of malaria and bacterial infection and iron markers at the end of the intervention period is underway and shall be presented at the conference.

**Conclusion:** The results so far support the administration of iron immediately after completing antimalarial treatment in anaemic children, however safety results will be needed to be reviewed before conclusive recommendations.