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### Poster abstract

**Effects of iron supplementation during pregnancy or in early life on the mental performance and psychomotor development of children: a systematic review of randomized controlled trials**

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**Objective:** To systematically evaluate the effects of iron supplementation during pregnancy and/or early life on the mental performance and psychomotor development of children.

**Design:** MEDLINE, EMBASE, and The Cochrane Library were searched through December 2009 for randomized controlled trials (RCTs).

**Results:** None of 5 RCTs individually showed a beneficial effect of iron supplementation during early life on the mental developmental index (MDI) of the Bayley Scales of Infant Development at different ages throughout the first 18 mo. Meta-analysis of 3 RCTs (n=561) showed that compared with placebo, supplementation with iron had no significant effect on children's MDI at approximately 12 mo (weighted mean difference [WMD] 1.66, 95%CI -0.14 to 3.47). Three of 5 RCTs demonstrated a beneficial effect of iron supplementation on the psychomotor development index (PDI) at some time points, while 2 did not. Meta-analysis of 3 RCTs (n=561) showed significant improvement on the PDI at approximately 12 mo in the iron-supplemented group compared with the control group (WMD 4.21, 95%CI 2.31 to 6.12). One RCT used the Griffiths scales and did find a beneficial effect in the iron-supplemented group compared to the unmodified cow's milk group. Two RCTs showed no effect of iron supplementation on behaviour. There was no effect of iron on either the IQ or behavioural status of the children.

**Conclusions:** Limited available evidence suggests that iron supplementation of infants may positively influence children's psychomotor development, while it does not seem to alter their mental development or behaviour.