Concurrent Session 4

Behavioural effect of prenatal iron supplementation in children: long term follow up of a randomised controlled trial
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Background - Iron deficiency is a relatively common problem in pregnancy. Although poor iron nutrition during pregnancy has been consistently shown to affect the behaviour of offspring in rats, the effect of iron nutrition in pregnancy on behaviour of children has not been explored.

Objective - To determine if improved maternal iron nutrition through iron supplementation in pregnancy affects behaviour of the children.

Design - 4 year follow up of children whose mothers participated in a double blinded randomised controlled trial of iron supplementation in pregnancy. Behaviour of the children, a secondary outcome of the 4-year follow up, was assessed using the “Strength and Difficulties Questionnaire”. A total score of greater or equal to 17 is classified as abnormal. The primary outcome of the follow up was IQ of the children, which was also assessed using the Stanford – Binet Intelligence Test.

Outcomes - Seventy percent (300/430) of the children from the original trial completed the behaviour assessment. There were no significant differences between children of iron supplemented mothers and children of control mothers in behavioural scores. However, the percentage of children with abnormal total behavioural scores was higher in the iron group compared with the control group (24/151, 16% vs. 12/149, 8%, RR: 2.0, P=0.037). Childhood IQ did not differ between the groups. Children with abnormal behavioural scores had lower mean IQ compared with children whose behavioural scores were in the normal range (104 ± 11 vs. 110 ± 11, P=0.001).

Conclusions - Routine iron supplementation in pregnancy was associated with a higher risk of abnormal behaviour score in this well-nourished population. Further research is needed to substantiate this finding.

Reference: