

## EFFECT OF IRON FORTIFICATION OF INFANT WEANING FOODS ON MINERAL ABSORPTION

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Interactions among trace minerals and between trace minerals and other nutrients are commonly of a competitive nature. In the gastrointestinal tract, trace minerals may interact intraluminally or compete for carrier sites. Interactions among iron, copper and zinc, and possibly other metal ions have been described for a variety of conditions. The need for iron in infants is particularly high between 6 and 12 months of age. Iron fortification is one way of increasing the iron levels in the diet of growing infants. This study was designed to examine whether the type of iron fortificant used in weaning foods has an effect on utilisation of other nutrients, particularly zinc, copper and manganese.

Six month old infants ( $n = 16$ ) were recruited from the Child Health Register in Norwich and divided into two groups of 8. Infants in the first group were given two meals daily of approximately 100 g of a commercial homogenised weaning food using an haem iron concentrate as fortificant. In the second group ferrous sulphate was added as fortificant. A seven-day metabolic balance was performed in each baby to compare Zn, Cu, Mn, K, Ca, Mg, and P absorption of the two groups of subjects. Duplicate samples of every meal and nappies were collected daily from homes. Stools were separated from the diaper and autoclaved. Food samples and stools were freeze-dried and ground to fine powder. Bulk samples were prepared by mixing the whole 7 day collection, dry-ashing and then analysing for mineral composition by Inductively Coupled Plasma. Net absorption was calculated as intake minus faecal excretion.