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**Efficacy of microencapsulated ferrous fumarate 'sprinkles' to treat anemia in infants and children**

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Iron deficiency anemia (IDA) is the most common nutrient deficiency in developing countries. Compliance with Fe drops given 3 times daily (the gold standard) is often poor, thus alternative interventions may improve outcomes. **Objective:** To determine the effect of frequency of dosing with ferrous sulfate drops (FSD) (daily vs. 3x/d) and form of Fe (microencapsulated ferrous fumarate 'sprinkles' (MFF) vs. FSD 3x/d) on treatment of IDA. 837 children 6-24 mo with Hb values 70-99g/L were recruited from villages around Kintampo, Ghana and randomized into 3 groups. Group 1 (Sprinkles; n=280) received daily sachets with MFF (80mg Fe) plus ascorbic acid added directly by a parent to the child's meal serving. Group 2 (n=277) received FSD daily (40mg Fe) in a single bolus while the Group 3 (FSD-control, n=280) received the same amount of total Fe in 3 divided doses (3x/d). Hb and ferritin were assessed at baseline and 2 mo later. Successful treatment (Hb>100g/L) in the MFF (58%) and the daily FSD groups (61%) were not different from the 3x/d FSD-control group (56%) (p=0.51). Ferritin increased in each group and was similar among groups. **Conclusions:** Use of MFF sprinkles with ascorbic acid or once daily drops resulted in a similar rate of successful treatment of IDA compared to drops given 3x/d. **Implications:** Improved compliance, lower cost and ease of use may favor the use of MFF to treat IDA. Supported by USAID's OMNI Research Program through the HNI of ILSI. Material support from Mead Johnson Canada and Nestle Canada Inc.