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The Effect of Intermittent Antenatal Iron Supplementation on Infant Outcomes in Rural Vietnam: A Cluster Randomized Trial

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ABSTRACT

Objectives: Intermittent antenatal iron supplementation is an attractive alternative to daily dosing during pregnancy, however the impact of this strategy on infant outcomes remains unclear. We compared the effect of intermittent antenatal iron supplementation with daily iron supplementation on maternal and infant outcomes in rural Vietnam.

Methods: This cluster randomised trial was conducted in Ha Nam province, Vietnam. 1,258 pregnant women in 104 communes were assigned to daily iron-folic acid (IFA), twice weekly IFA, or twice weekly multiple micronutrient (MMN) supplementation. Primary outcome was birth weight.

Results: There was no difference in birth weights of infants of women receiving twice weekly IFA compared to daily IFA (mean difference [MD] 28 g; 95% CI -22 to 78), or twice weekly MMN compared to daily IFA (MD -36.8 g; 95% CI -82 to 8.2). At 32 wk gestation, maternal ferritin was lower in women receiving twice weekly compared to daily IFA (geometric mean ratio (GMR) 0.73;

95% CI 0.67 to 0.80), and in women receiving twice weekly MMN compared to daily IFA (GMR 0.62; 95% CI 0.57 to 0.68), with no difference in hemoglobin levels. Infants of mothers who received twice weekly IFA had higher cognitive scores at 6 mo of age compared to those who received daily IFA (MD 1.89; 95% CI 0.23 to 3.56).

Conclusions: Twice-weekly antenatal IFA supplementation achieved similar mean birthweight, and improved cognitive scores in infants at 6 months of age, compared to daily IFA supplementation, and should be considered for use in settings with low anemia prevalence.

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