

Twice weekly iron supplementation to pregnant women as effective as a daily regime

June 18 2013

Daily supplementation of iron tablets to pregnant women does not provide any benefits in birth weight or improved infant growth compared to twice weekly supplementation, according to a study by international researchers published in this week's *PLOS Medicine*.

Furthermore, twice weekly supplementation is linked to improved adherence rates in pregnant women and may also be linked to improved cognitive development in infants aged six months.

These findings are important as anemia—a condition in which the blood does not supply the body with enough oxygen because of low levels of haemoglobin, the iron-containing pigment that enables [red blood cells](#) to carry oxygen—is a widespread global health problem, with over 2 billion people thought to be affected, yet the side effects and costs of daily [iron supplementation](#) are challenges to treatment.

The researchers, led by Beverley Biggs from the University of Melbourne in Australia, reached these conclusions by conducting a cluster randomised [controlled trial](#), in which pregnant women in a semi-rural region of Viet Nam were randomized to receive daily iron–folic acid supplementation (426 women), twice weekly iron–folic acid supplementation (425 women), or twice weekly iron–folic acid supplementation plus micronutrients (407 women).

The researchers (also the authors of this paper) found that [birth weight](#) was similar in all supplement groups, and there were also no differences in rates of prematurity, stillbirth, or early [neonatal death](#). At six months, there were also no differences in the levels of infant [hemoglobin](#), prevalence of anemia, or growth rates.

However, the authors found that infants born to mothers in the twice weekly iron–folic acid supplement group had improved cognitive development compared to infants born to mothers in the daily supplement group. Finally, the authors found that adherence rates were significantly higher in the twice weekly iron–folic acid supplement group compared to the once daily regime.

The authors say: "We have shown that twice weekly antenatal [iron-folic acid supplementation] or [multiple micronutrient supplementation] in an area of Southeast Asia with low anemia prevalence did not produce a clinically important difference in birth weight or infant growth outcomes, compared to daily antenatal [iron-folic acid supplementation]."

They continue: "Our finding of a significant improvement in infant cognitive outcome at 6 months of age following twice weekly antenatal [iron-folic acid supplementation] requires further exploration, and provides additional support for the use of intermittent over daily antenatal [iron-folic acid supplementation] regimes in populations with low rates of iron deficiency."

More information: Hanieh S, Ha TT, Simpson JA, Casey GJ, Khuong NC, et al. (2013) The Effect of Intermittent Antenatal Iron Supplementation on Maternal and Infant Outcomes in Rural Viet Nam: A Cluster Randomised Trial. PLoS Med 10(6): e1001470. [doi:10.1371/journal.pmed.1001470](https://doi.org/10.1371/journal.pmed.1001470)

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