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Haematinic treatment of anaemia increases the risk of *Plasmodium vivax* malaria in pregnancy

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Abstract

Nutritional deficiency and malaria are 2 major causes of anaemia during pregnancy in tropical areas. The relationship between anaemia, its treatment with iron and folate, and malaria was studied in a prospective cohort of 2112 pregnant Karen women on the north-western border of Thailand between 1993 and 1997. The development of *Plasmodium vivax* malaria was associated with a past mean haematocrit, > 30% (hazard RATIO = 1.5, 95% CI 1.2–2, $P = 0.001$) and recent (< 30 d) iron and folate supplementation (hazard ratio = 1.7, 95% CI 1.1–2.6, $P = 0.01$). There were no associations with *P. falciparum* infections. *Plasmodium vivax* has a predilection for young erythrocytes, and these results suggest that pregnant women with larger numbers of circulating young red cells are at greater risk of developing *P. vivax* malaria. In *P. vivax*-endemic areas, systematic iron and folate supplementation confers both benefit and risk in pregnancy.

Author Keywords: anaemia; malaria; *Plasmodium vivax*; *Plasmodium falciparum*; pregnancy; nutrition; Thai-Bunnesse border

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