

Higher folate levels during pregnancy may lower risk of congenital heart disease

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A case-control study has found that higher folate levels before or during early pregnancy are associated with a lower risk for congenital heart disease (CHD) in children. Folate supplementation may help, and levels

of red blood cell (RBC) folate higher than those currently recommended may be warranted. The findings are published in *Annals of Internal Medicine*.

It is recommended that to-be-pregnant people take folate supplements to prevent [birth defects](#), such as congenital neural tube defects, but their role in preventing CHD is unclear. Prior studies on the association between pregnancy folate levels and the risk for CHD have been conflicting. Many of these studies measured serum folate levels, which can vary, rather than RCB folate, which may be a better measure.

Researchers from Children's Hospital of Fudan University, Shanghai, measured RCB folate levels in 197 women who gave birth to offspring with CHD and 788 who gave birth to those without CHD to quantify the association between periconception RBC folate and offspring CHD risk. Participant data came from the Shanghai Preconception Cohort Study. Participants had their RBC folate levels measured either before conception or during early pregnancy. Offspring were screened by [pulse oximetry](#) plus cardiac murmur at early neonatal stage and those screened positive would be conformed by echocardiography for CHD. The women were also screened for MTHFR C677T, a genetic variant that is associated with folate metabolism and a 10 to 35 percent reduction in folate levels.

The authors found that women with offspring with CHD had lower median RBC folate levels than those without CHD. According to the authors, to achieve primary CHD prevention, higher target RBC folate levels than currently recommended for neural tube defect prevention may be needed and warrant further study.

More information: Hongyan Chen et al, Periconception Red Blood Cell Folate and Offspring Congenital Heart Disease, *Annals of Internal Medicine* (2022). [DOI: 10.7326/M22-0741](https://doi.org/10.7326/M22-0741).

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