



Indian Health Service
National Pharmacy and Therapeutics Committee
Formulary Brief: Pregnancy & Prenatal Care
-April 2021-



Background:

At the Spring 2021 meeting, the Indian Health Service National Pharmacy and Therapeutics Committee (NPTC) provided a review of current guidelines and clinical recommendations for prenatal care as well as an analysis of evidence-based therapies for use in pregnant patients. Currently named medications to the National Core Formulary include folic acid, pyridoxine, vitamin D, iron, and aspirin. Following review and evaluation, the NPTC voted to **ADD prenatal multivitamins (containing ≥ 400 mcg of folic acid/dose)** to the National Core Formulary.

Discussion:

Due to increased metabolic demands for fetal growth and development, pregnant women are particularly vulnerable to numerous vitamin and mineral deficiencies including but not limited to: iron, vitamin D, folate, vitamin A, iodine, zinc, calcium, and vitamin B12.

Iron deficiency is the most common known form of nutritional deficiency and is most prevalent among young children and women of childbearing age, particularly pregnant women. Anemia during the first two trimesters of pregnancy is associated with two-fold increased risk for preterm delivery and three-fold increased risk for delivering a low-birthweight baby¹. Meta-analyses of 43 studies found that overall, women taking oral iron supplementation were less likely to have low birthweight newborns compared with no iron (RR 0.81; 95% CI, 0.68 to 0.97; based on 11 trials) and lower rates of maternal anemia (RR 0.30; 95% CI, 0.19 to 0.46) and iron deficiency (RR 0.43; 95% CI, 0.27 to 0.66) during pregnancy^{2,3}.

Additionally, neural tube defects are among the most common major congenital anomalies in the United States and may lead to a range of disabilities or even death. Most women do not receive the recommended daily intake of folate (vitamin B9) from diet alone⁴. Systematic reviews have shown that folic acid supplementation in mothers reduce neural tube defects in offspring without causing adverse effects in mothers or babies². In women with a history of neural tube defects, folic acid supplementation reduced the recurrence of a pregnancy affected by another defect (RR 0.32; 95% CI, 0.17 to 0.60)². Therefore, the American College of Obstetricians and Gynecologists and the U.S. Preventive Services Task Force (USPSTF) both recommend that all women who are planning or capable of pregnancy consume at least 400 mcg of folic acid⁵⁻⁶. The NPTC previously reviewed [Nutritional Supplements in Women's Health](#) in February 2016 at which time folic acid (any product with ≥ 400 mcg/daily dose) was added to the NCF.

There was further discussion regarding the use of aspirin intended for the prevention of preeclampsia. Preeclampsia and fetal growth restriction are major causes of perinatal death and handicap in survivors⁷. Aspirin inhibits thromboxane, a hormone that raises blood pressure and is known to be elevated in women with preeclampsia. Aspirin improves blood flow across the placenta, by dilating uterine arteries. Inadequate placental blood supply is thought to play a key role in initiating preeclampsia⁸.

Systematic reviews compared the effect of daily aspirin versus placebo during pregnancy and found that low-dose aspirin therapy initiated at or before 16 weeks' gestation resulted in a significant reduction in preeclampsia (RR 0.57, 95% CI, 0.43 to 0.75), severe preeclampsia (RR 0.47, 95% CI, 0.44 to 0.70), and fetal growth restriction (RR 0.56, 95% CI, 0.44 to 0.70)⁹. Therefore, USPSTF recommends low dose aspirin (81mg/day) after 12 weeks gestation for prevention of preeclampsia in women with significant risk factors such as history of preeclampsia, multiple gestation, chronic hypertension, or diabetes mellitus.

Findings:

Often, the most convenient way to ensure adequate iron and folic acid intake is to administer a daily multivitamin containing adequate amounts of both. A single prenatal vitamin may increase patient compliance as well as decrease possible pill burden as compared to multiple individual vitamin supplementation. There is currently no evidence of any difference between formulations of prenatal vitamins. Therefore, NPTC voted to ADD prenatal vitamins (containing ≥ 400 mcg of folic acid/dose) to the NCF.

The USPSTF recommends low dose aspirin (81mg/day) after 12 weeks' gestation for prevention of preeclampsia in women with significant risk factors such as history of preeclampsia, multiple gestation, chronic hypertension, or diabetes melitus⁷. Aspirin is included on the NCF and may be considered in this particular patient population before 16 weeks' gestation as appropriate.

If you have any questions regarding this document, please contact the NPTC at IHSNPTC1@ihs.gov . For more information about the NPTC, please visit the [NPTC website](#).

References:

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