

THE VITAL ROLE OF FOLIC ACID IN PREGNANCY: PROMOTING HEALTH AND DEVELOPMENT FOR THE BABY

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ABSTRACT

During pregnancy, folic acid plays a very important role in promoting the health and development of the baby. In the first trimester, moms-to-be may experience symptoms like morning sickness, fatigue, and breast tenderness. Regular prenatal care is essential throughout the pregnancy journey. Healthcare providers monitor the health of both mom and baby, offer guidance on nutrition, exercise, and address any concerns. A balanced diet with plenty of fruits, veggies, lean proteins, and whole grains is crucial for supporting the baby's growth. Prenatal vitamins, which contain folic acid, are also important for the baby's development. Taking care of mom's emotional well-being is equally important during pregnancy. Folic acid plays a vital role in promoting the health and development of the baby during pregnancy. Regular prenatal care, a balanced diet, and emotional well-being are all key factors in ensuring a healthy and happy journey for both mom and baby.

Key Words: Pregnancy, folic acid, vitamins, baby's health.

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INTRODUCTION

Pregnancy is a beautiful and transformative journey for expectant mothers. It's a time filled with joy, anticipation, and a deep sense of responsibility for the well-being of the growing baby. So, pregnancy typically lasts around 9 months, which is divided into three trimesters. During the first trimester, mother might experience symptoms like morning sickness, fatigue, and breast tenderness. As it move into the second trimester, many women start feeling better and have more energy. The third trimester can bring on discomforts like backaches, swollen feet, and trouble sleeping. Throughout the pregnancy, it's super important to get regular prenatal care. The healthcare provider monitor the health of both mother and the baby and provide guidance on nutrition, exercise, and any concerns one may have. Speaking of nutrition, it's crucial to eat a balanced diet with plenty of fruits, veggies, lean proteins, and whole grains to support the baby's growth. Prenatal vitamins are packed with essential nutrients, like folic acid, that are important for the baby's development. Taking care of mothers emotional well-being is also key. Pregnancy can bring about a mix of emotions, so it's important to prioritize self-care, seek support from loved ones, and communicate openly with the healthcare provider. One important aspect of prenatal care is ensuring an adequate intake of folic acid. In this article, we will explore the importance of folic acid supplementation during pregnancy and its impact on the health and development of the baby. Folic acid plays a vital role in promoting the health and development of the baby. Pregnancy is a beautiful journey filled with excitement and anticipation, and ensuring proper nutrition is essential for the well-being of both the mother and the baby. To ensure the best possible outcomes, it is recommended that women who are planning to become pregnant or are already pregnant take a daily folic acid supplement of 400-800 micrograms. Additionally, consuming foods rich in folic acid is highly beneficial. Leafy greens, legumes, citrus fruits, avocado, and fortified grains are all great sources of this essential nutrient.

The Role of Folic Acid:

Folic acid, or folate, is a vital nutrient that plays multiple roles in the body. It is especially important for cell division and growth, making it essential during periods of rapid growth like pregnancy. Folic acid is involved in the production and repair of DNA, the genetic material in our cells. It also aids in the formation of red blood cells and supports the proper functioning of the nervous system. By ensuring an adequate intake of folic acid, you can help prevent certain birth defects and promote overall health. Folic acid, also known as vitamin B9, is a vital nutrient that plays a significant role in the early stages of fetal development. It is essential for the formation of the baby's neural tube, which eventually develops into the brain and spinal cord. Adequate folic acid intake during the early weeks of pregnancy can help prevent neural tube defects, such as spina bifida.

Preventing Birth Defects:

Folic acid is important for preventing neural tube defects, which are serious birth defects affecting the brain, spine, or spinal cord. By taking folic acid before and during early pregnancy, you can significantly reduce the risk of these defects. It's recommended that women of childbearing age consume 400-800 micrograms of folic acid daily, either through supplements or fortified foods. Starting folic acid supplementation at least one month before conception is ideal, as the neural tube develops in the early stages of pregnancy.

Neural tube defects are serious conditions that can have lifelong implications for the baby's health. By taking folic acid supplements before conception and during early pregnancy, women can significantly reduce the risk of these birth defects. It is recommended that women of childbearing age consume folic acid daily to ensure optimal protection.

Wilson, R. D., et al., (2015) The research suggests that taking oral folic acid and multivitamin/micronutrient supplements before and during pregnancy can help prevent neural tube defects and other congenital anomalies. It's important for healthcare professionals to educate women about the proper use and dosage of these supplements. The costs mainly involve the daily supplementation and following a folate-enriched diet.

Patrick, T. E., et al., (2004) found that black women with preeclampsia had higher levels of homocysteine and lower levels of folic acid compared to white women. These racial differences in nutrient levels could contribute to the higher rates of preeclampsia in black women and may have long-term effects on cardiovascular health. It's important to consider these factors when addressing preeclampsia.

Supporting Cell Growth and Development:

Folic acid is essential for the growth and development of cells throughout the body. It aids in the production of new cells, including red blood cells, which carry oxygen to all tissues. During pregnancy, folic acid supports the development of the baby's organs, tissues, and overall growth. It also helps in the formation of the neural tube, which eventually becomes the baby's brain and spinal cord. By ensuring sufficient folic acid intake, is liking providing the necessary support for healthy cell growth and development. In addition to its role in neural tube formation, folic acid also supports the production of red blood cells and aids in DNA synthesis. This is important for the rapid cell growth and development that occurs during pregnancy. Folic acid helps prevent certain types of anemia and supports the healthy growth of the placenta, which nourishes the baby throughout pregnancy.

Food Sources of Folic Acid:

Folic acid can be obtained from a variety of food sources. Leafy green vegetables like spinach and kale, as well as other vegetables like broccoli and asparagus, are rich in folic acid. Legumes such as lentils and chickpeas, as well as citrus fruits like oranges and grapefruits, are also good sources. While folic acid supplements are essential, it's also important to incorporate foods rich in this nutrient into your diet. A balanced diet that includes these foods, along with folic acid supplements, can help ensure you're meeting your nutritional needs. Additionally, fortified grains like bread and cereals often contain added folic acid. It's important to incorporate a diverse range of these foods into your diet to ensure an adequate intake of folic acid.

CONSULTING WITH HEALTHCARE PROFESSIONALS:

Every pregnancy is unique, and individual needs may vary. It's important to consult with your healthcare provider to determine the appropriate dosage of folic acid for your specific situation. They can guide you on the right supplementation and monitor your overall prenatal health.

CONCLUSION:

The importance of folic acid supplementation during pregnancy cannot be overstated. By ensuring an adequate intake of folic acid, expectant mothers can greatly reduce the risk of neural tube defects and support the healthy development of their baby. With the combination of folic acid supplements and a balanced diet, mothers take proactive steps to promote the health and well-being of both herself and the baby.

REFERENCES

1. Crider, K., Williams, J., Qi, Y. P., Gutman, J., Yeung, L., Mai, C., Finkelstein, J., Mehta, S., Pons-Duran, C., Menéndez, C., Moraleta, C., Rogers, L., Daniels, K., & Green, P. (2022). Folic acid supplementation and malaria susceptibility and severity among people taking antifolate antimalarial drugs in endemic areas. *The Cochrane database of systematic reviews*, 2(2022), CD014217. <https://doi.org/10.1002/14651858.CD014217>
2. Patrick, T. E., Powers, R. W., Daftary, A. R., Ness, R. B., & Roberts, J. M. (2004). Homocysteine and folic acid are inversely related in black women with preeclampsia. *Hypertension (Dallas, Tex. : 1979)*, 43(6), 1279–1282. <https://doi.org/10.1161/01.HYP.0000126580.81230.da>
3. Wilson, R. D., Genetics Committee, Wilson, R. D., Audibert, F., Brock, J. A., Carroll, J., Cartier, L., Gagnon, A., Johnson, J. A., Langlois, S., Murphy-Kaulbeck, L., Okun, N., Pastuck, M., Special Contributors, Deb-Rinker, P., Dodds, L., Leon, J. A., Lowel, H. L., Luo, W., MacFarlane, A., ... Van den Hof, M. (2015). Pre-conception Folic Acid and Multivitamin Supplementation for the Primary and Secondary Prevention of Neural Tube Defects and Other Folic Acid-Sensitive Congenital Anomalies. *Journal of obstetrics and gynaecology Canada : JOGC = Journal d'obstetrique et gynecologie du Canada : JOGC*, 37(6), 534–552. [https://doi.org/10.1016/s1701-2163\(15\)30230-9](https://doi.org/10.1016/s1701-2163(15)30230-9).