

# Nutritional requirements during pregnancy: A focus on essential nutrients.

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## Introduction

Birth defects are significant health concerns that affect millions of babies worldwide. These conditions can have lifelong consequences for affected individuals and their families. However, the good news is that many birth defects can be prevented or reduced by ensuring proper nutrition during pregnancy. One such essential nutrient is folic acid. In this article, we will explore the importance of folic acid in preventing birth defects and the recommended dietary intake for pregnant women. Folic acid, also known as foliate or vitamin B9 plays a critical role in fetal development, particularly during the early stages of pregnancy. It is essential for the production and maintenance of new cells, including the development of the baby's neural tube, which forms the brain and spinal cord. Insufficient folic acid levels during pregnancy have been linked to neural tube defects (NTDs) such as spina bifida and anencephaly [1].

Spina bifida is a condition where the baby's spinal column does not close properly, leading to potential nerve damage and physical disabilities. Anencephaly is a severe birth defect where parts of the brain and skull do not develop correctly, resulting in the baby's inability to survive. Studies have shown that women who consume an adequate amount of folic acid before conception and during early pregnancy can reduce the risk of these neural tube defects by up to 70%. To ensure proper folic acid intake, it is recommended that women who are planning to become pregnant or are in the early stages of pregnancy consume 400 micrograms (mcg) of folic acid daily. This requirement can often be achieved through a healthy diet alone, but in many cases, a folic acid supplement may also be necessary [2].

Good dietary sources of folic acid include leafy green vegetables (such as spinach and broccoli), citrus fruits, legumes (like beans and lentils), fortified cereals, and enriched bread and pasta. However, since it can be challenging to obtain sufficient folic acid from food alone, many healthcare providers advise pregnant women to take a daily prenatal vitamin containing folic acid to meet their requirements. Folic acid is an essential nutrient for preventing birth defects, particularly neural tube defects, in new-borns. By ensuring an adequate intake of folic acid before conception and during early pregnancy, women can significantly reduce the risk of these devastating conditions. A daily dose of 400 mcg of folic

acid is recommended for women who are planning to become pregnant or are already pregnant[3, 4].

While dietary sources such as leafy greens, fruits, and legumes provide folic acid, it can be challenging to obtain the required amount solely from food. Therefore, prenatal vitamins containing folic acid are often recommended to bridge the gap and ensure sufficient intake. It is crucial for healthcare providers, public health organizations, and educational institutions to raise awareness about the importance of folic acid supplementation and a well-balanced diet during pregnancy. By promoting adequate folic acid intake, we can make significant strides in preventing birth defects and improving the health and well-being of future generations [5].

## Conclusion

In conclusion, folic acid is an invaluable nutrient that plays a vital role in preventing birth defects. By understanding its significance and taking necessary precautions, expectant mothers can provide the best possible start in life for their babies, promoting healthy development and reducing the risk of devastating birth defects.

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Received: 26-Jun-2023, Manuscript No. AAGGS-23-105639; Editor assigned: 29-Jun-2023, PreQC No. AAGGS-23-105639(PQ); Reviewed: 13-Jul-2023, QC No. AAGGS-23-105639;

Revised: 17-Jul-2023, Manuscript No. AAGGS-23-105639(R); Published: 22-Jul-2023, DOI:10.35841/2591-7994-7.4.155

**Citation:** Khan K. Nutritional requirements during pregnancy: A focus on essential nutrients. *Gynecol Reprod Endocrinol.*2023;7(4):155