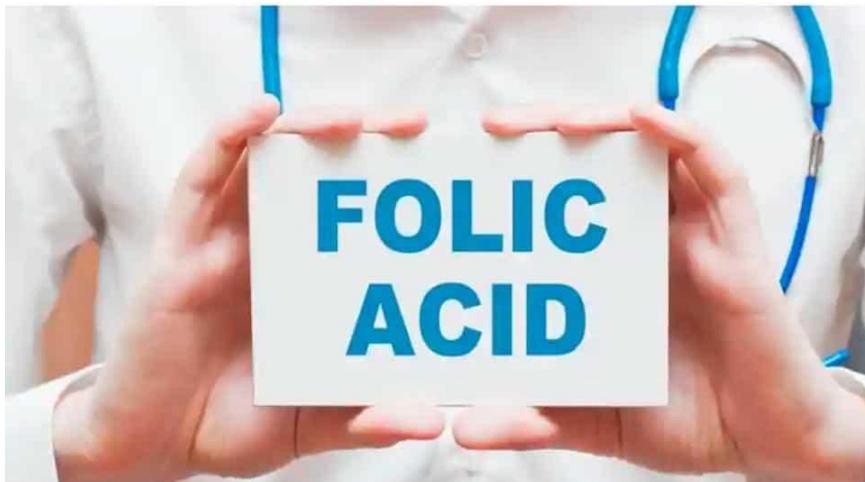


## **Folic acid awareness week: Why folic acid is an important public health issue**

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In several countries, large folic acid awareness campaigns have been undertaken to educate women about the need to take a folic acid supplement before planning a pregnancy.(Shutterstock)

It is Folic Acid Awareness Week (January 4-10) and thus a write-up about this seems timely, but a paediatric surgeon writing about folic acid — a simple B-complex vitamin — may be considered anomalous by some. The truth is folic acid, or rather the lack of it, is responsible for the many complex and long surgeries that I perform as a part of my paediatric surgical practice. And many of these surgeries are performed on new born and young infants.

These are children born with a birth defect of the spinal cord and the brain – collectively termed as neural tube defects (NTDs). Neural tube defects are the commonest type of birth defects seen in India. They can result in death of the new-born (neonatal mortality) or will

cause childhood paralysis in those who survive. The paralysis is much more severe and disabling than polio. Additionally, these children require several surgeries during their childhood and adolescence for associated medical problems.

From published data, it is estimated that in India, up to four-five per 1,000 births are affected by this serious defect, of which 90% can be prevented by effective folic acid intervention. To prevent NTDs, adequate levels of folic acid are required in the mother's body during the first six weeks of pregnancy when the brain and spina cord are developing. An important, original research article recently published in a leading birth defects Journal – authored by two of the world's leading NTD-epidemiologists, Godfrey Oakley and Vijaya Kancharla from Atlanta, mentioned that in 2015 alone, proper public health interventions and policies for folic acid in India “would have prevented about 116,070 cases of folic acid preventable SBA (NTDs)”. Can you imagine so many cases of polio in India in one year! If that were to happen, health ministers and public health officials may have to resign. Then why are we turning a blind eye to the problem of folic acid preventable NTDs, which cause childhood paralysis, which is worse than that caused by polio, and is preventable!

My tryst with NTDs began as a resident doctor in the late 1980s, when often I was the first to receive these newborns who were brought in by their distraught families, with the visible protuberant swelling on the back where the spine and spinal cord was defective. Many of these babies, girls and boys alike, had varying degrees of paralysis of their lower limbs.

In 1991, the famous Medical Research Council study from the United Kingdom proved unequivocally that folic acid prevents NTDs, and by 1998, the United States had implemented mandatory fortification of enriched cereal grain products with folic acid. This and other folic acid awareness programmes have enabled the US to decrease the prevalence of NTDs to 0.5/1,000 live births. Currently, about 60 countries have implemented mandatory folic acid fortification, and reported similar reductions in prevalence of NTDs.

Additionally, in several countries, large folic acid awareness campaigns have been undertaken to educate women about the need to take a folic acid supplement before planning a pregnancy.

This dual policy of creating awareness about pre-conceptual folic acid supplementation and fortification of suitable foods with adequate levels of folic acid must be implemented in India without further delay.

In a 2016 published study conducted by the department of community and family medicine, All India Institute of Medical Sciences (Rishikesh), it was found: "Totally, 94.25% of women had planned pregnancies; however, only 4.75% of women reported FA supplementation before conception. This indicates that if these women would have been properly counselled and prescribed FA, they might have taken it."

Regarding food fortification with folic acid, we seem to be going in the reverse direction. In 2016, the Food Safety and Standards Authority of India (FSSAI) developed standards for the type and amount of nutrients that can be added to fortified wheat flour. Those were very much in line with the World Health Organization (WHO) recommendations. But in 2018, FSSAI switched to dramatically lower standards, which will lead to no health impact. If India adapts the 2018 FSSAI standard, it will not see results as seen in other countries, where fortification with FA has been mandated because the level of folic acid included is 17 times lower than WHO recommendations. Global experts in grain fortification are questioning the 2018 FSSAI standards and feel that fortification's success in India is in jeopardy, unless FSSAI goes back to its 2016 standard for fortified wheat flour.

Almost 20 years ago, at a neural tube defects conference in Atlanta, I first met and heard Dr Godfrey Oakley, then a professor of epidemiology at CDC. His evangelical lecture opened my eyes to the fact that folic acid awareness and effective public health interventions can prevent the large number of cases of children born with severe childhood paralysis in India. Prof Oakley has since then travelled all over the world becoming the global ambassador for

folic acid. I invited him to India first in 2006 and recently in 2018. Since 2006, The Spina Bifida Foundation, along with other organisations, such as the International Federation and the Flour Fortification initiative, have been lobbying with the government to become serious about NTDs prevention. Although some state governments have undertaken initial steps for fortification, on the whole, precious little has been done in this regard.

The prevention of folic acid-preventable NTDs must be given high priority in India because it will not only prevent thousands of children being born with paralysis since birth, but also is a cost effective and sustainable way to achieve significant reduction in neonatal and under-five mortality rates.