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Awareness of folic acid supplimentation in pregnancy questionnaire-based study

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Abstract
Objective: To evaluate the awareness of the need for folic acid supplementation and also the actual intake during the periconceptional period to prevent neural tube defects.
Methods: The study involved a questionnaire survey conducted among 100 women attended the antenatal visit in the Department of Obstetrics and Gynecology, Yenepoya Medical College, Mangalore, Karnataka. The data were collected over the period of March 2022 to December 2022
Results: Out of 100 participants, 63% women had taken folic acid and, 37% have not taken folic acid. Out of 63% who have taken, 27% were aware about the benefits of folic acid intake and 36% was not aware about the benefits of folic acid. Out of 63% who has taken folic acid, 20.6% has taken folic acid pre-conceptionally and 79.3% has taken at the time of pregnancy.
Conclusion: The study showed that despite the fact that most of our respondents knew about Folic acid. But the actual rate of Folic acid use at the appropriate time during the pre-pregnancy period was not high among our population. A public health policy or strategy to increase the preconceptional use of folic acid is needed in our society.

Keywords: Awareness, folic acid supplementation, preconceptional

Introduction
Every woman who desires to have a child needs to pay special care to her diet and lifestyle habits. Caring for pregnancy should start from the moment she decided to become pregnant, as good planning throughout pregnancy decreases the chances of congenital anomalies in babies. Hence, good prenatal care is fundamental. One such care concerns the use of folic acid, folate or vitamin B9, which is a B-complex water-soluble vitamin. It is an essential nutrient that is required for DNA replication and as a substrate for a range of enzymatic reactions involved in amino acid synthesis and vitamin metabolism [2].
Demands for folate increase during pregnancy because it is also required for growth and development of the fetus. Women who is on antiepileptics has to take folic acid in higher dose. Folate deficiency is one of today's most common vitamin deficiencies in women. Women who consume a low level of folate during pregnancy are at risk for poor pregnancy outcomes including some birth defects. It has been associated with abnormalities in both mothers (anemia, peripheral neuropathy) and fetuses. In addition to the prevention of NTD, periconceptional supplementation with folic acid also appears to have other beneficial effects, including the prevention of congenital heart disease and oral clefts and possibly preterm birth [3].

Methods
This study was performed using a questionnaire survey on 100 women attending the antenatal visit age group of (18-35 years) in the outpatient department of OBG Yenepoya Medical College, over the period of March 2022 to December 2022, after obtaining ethical clearance from the institute.

Inclusion Criteria
Age between 18-35 years.
Antenatal women with irrespective of the period of gestation.

Exclusion Criteria
Those who did not agree to participate.
Those who came with gynecological complaints.

Results
During the period between March 2022 and December 2022, a total of 100 pregnant women were recruited to the study. Nearly 27% of the women reported that they had heard about folic acid, however, only 20.6% of the pregnant women used supplements containing folic acid before their pregnancy. The percentage of women that used folic acid (79.3%) early in pregnancy. The most common information source for usage of folic acid was the attending doctor (65%) followed by nurses (15%) of the 100 women that answered the questionnaire regarding recommended dose of folic acid supplementation, only 20.6% answered they understood the recommended dose.

Table 1: Distribution of folic acid conception

Time of conception	Folic acid taken (%)
Aware of folic acid	17(27%)
Prior conception	13 (20.6%)
At the time of pregnancy	50 (79.3%)
< 7 weeks	15 (30%)
7-12 weeks	35 (70%)

Table 2: Show Variable, Total and Percentage (%)

Variable		Total	Percentage (%)
Age at pregnancy	20-25	34	34%
	26-30	28	28%
	31-35	26	26%
	36-40	12	12%
Level of education	Primary	26	26%
	High school	58	58%
	Higher secondary	12	12%
	College	4	4%
Economic status	Good	10	10%
	Moderate	75	75%
	poor	15	15%
FA intake before pregnancy		13	20%
FA intake during pregnancy			79.3%
Sources of information about folic acid	Doctor	65	65%
	Nurse	15	15%
	Media	18	18%
	Self-cognition	7	7%
Which foods are rich in folic acid	Green vegetables	72	72%
	Fruits	18	18%
	Meat	10	10%

Discussion
In the study, it was observed that out of 100 participants, nearly 27% of women were aware of folic acid, but only 20.6% of women took supplements containing folic acid before their pregnancies. The rate of folic acid use is 79.3% early in the first trimester of pregnancy. Which was similar to the study conducted by Giselle Medawar *et al.* [3] where 93.9% of women took Folic acid supplements during pregnancy, however only 33.6% of the participants took folic acid before pregnancy.
NTDs are severe congenital anomalies involving the neural tube that develop by the 28th day of gestation. Preconceptional administration of folic acid can effectively reduce the risk of a woman to produce a fetus with NTDs. Governmental policy plays an important role in consumption of folic acid in women at a reproductive age. Folic acid fortification is a cost-effective policy and provides a daily intake of folic acid with an average dose of 100 µg which can effectively reduce the prevalence of NTDs. Daily requirement of folic acid in normal pregnancy is 400 mcg. Daily requirement of folic acid with previous anomalies babies is 4 mg, and women who is on antiepileptics requirement of folic acid per day is 4 mg. The prevention of NTDs mainly depends on the awareness and use of supplements containing folic acid as well as antenatal screening for NTDs. The awareness of folic acid in women of a reproductive age has increased in recent years [14].
Multivariate analysis of the relationship between the selected Sociodemographic characteristics of the pregnant women and awareness and use of folic acid is summarized in Table 2. 34% of the participants are in the age group of 20-25 years, 28% are in the age group of 26 to 30 years. Considering the Education level of participants, 26% of them are of primary level education, while 58% of the them are of high school only 4% of participants are highly educated. Considering the economic status 10% are of good economic background, while 75% of are moderate and 10% are poor.
The most common source of information about folic acid was the attending doctors (65%) in the present study. The second most common source was nurses (15%), and 18% information from media. Hei-Jen Jou *et al.* [11] conducted a similar study which was showing the silimiar results, as to the best source of information, 44.4% named their physician. Several other sources were named trustworthy, including the media (36.1%).
Although most women 72% could state leafy green vegetables as an important food source of folic acid, more than half of women did not know the recommended dose of folic acid supplementation. Health providers and the media need to provide more information on this issue for women. Women with higher education knew more about folic acid and were more likely to use it. Women living in rural areas and with less education knew less about folic acid and were less likely to use it.

Conclusion
Only a small proportion of women have used folic acid before their pregnancies. A public health policy or strategy to increase the preconceptional use of folic acid is needed.

Conflict of Interest
Not available

Financial Support
Not available

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