



AWARENESS ABOUT IMPORTANCE OF FOLIC ACID DURING PREGNANCY AMONG WOMEN IN CHILD BEARING AGE : A COMMUNITY PHARMACY STUDY

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ABSTRACT

Neural tube defects are among the most common birth defects that result in infant mortality and serious disability. Folic acid helps the body to make healthy new cells. When a woman has enough folic acid in her body before and during pregnancy, it can prevent major birth defects of brain and spinal cord specially, neural tube defects. There is an increase in folate requirement during pregnancy due to the growth of the foetus and uteroplacental organs. Aim of this study was to find out whether the women child bearing age were aware of the importance of taking folic acid before conception and during the pregnancy. Results of this study show that maximum numbers of women are not aware of the importance of folic acid in pregnancy; only 2 percent of women in age group between 30-34 years were aware about folic acid. Pharmacist has an important role in advocating folic acid message to gynaecologists and women in child bearing age. Increasing involvement of pharmacist in this area will help to raise the professional profile of the pharmacist as an expert for women to go for advice during pregnancy.

Key words: Neural tube defect, Folic acid deficiency, Pregnancy, Women's awareness

INTRODUCTION

Neural tube defects are birth defects of brain and spinal cord, which results in infant mortality and serious disability. The two most common neural tube defects are spinabifida, a developmental anomaly marked by defective closure of the bony encasement of the spinal cord, Fig. 1,2 and 3 through which the meninges may or may not protrude i.e. fetal spinal cord column doesn't close completely during first month of pregnancy, there is usually nerve damage that causes paralysis of legs. In anencephaly congenital absence of the cranial vault, with the cerebral hemispheres completely missing or reduced to small

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masses occurs. Babies with anencephaly are either still born or die shortly after birth.¹ Folic acid helps the body cells to make healthy new cells.



Fig. 1: Meningomyelocele - Caudal neural tube fails to close properly in this cyst like structure visible just above the buttocks. Infection is a common complication.



Fig. 2: Neural Tube – Neural tube become the brain and spinal cord.



Fig. 3: Anencephaly – The most common and most severe of cranial neural tube defect. Frog like facial appearance

When a woman has enough folic acid before and during pregnancy, birth defects of brain and spinal cord in neonates can be minimized. Prevalence and treatment of pregnancy related folate deficiency and megaloblastic anemia is well known. Second major achievement with the use of folic acid occurred in 1990. Researchers suspected an association between maternal folate status and fetal malformations, particularly neural tube defects (NTDs).² These discoveries led to mandated folic acid food fortification in several countries. Pregnancies were associated with an increased folate demand and in some cases, led to overt folate deficiency. The increase in folate requirement during pregnancy is due to the growth of the foetus and uteroplacental organs. However, dietary folate intake doesn't always meet the increased folate needs in pregnancy and circulating folate concentrations decline in pregnant women who are not supplemented with folic acid. It is essential that plasma folate be kept above a critical level (> 0.7 nmol/L) because plasma folate is the main determinant of transplacental folate delivery to the foetus. Adequate plasma folate is likely to be achieved, if prenatal folic acid supplementation or folic acid fortification of food is practiced. However, in countries without such measures, the risk for gestational folate deficiency remains a public health problem.

In 1991, Medicines Research Council²⁻⁵ multicentric trials conclusively demonstrated that daily doses of 4 mg folic acid before and during early pregnancy resulted in 71% reduction in recurrence of neural tube defects in those women, who had a child with a neural tube defects. For the prevention of recurrence of neural tube defects, women should take folic acid supplements of 4-5 mg daily. All the women who are planning for pregnancy should consume folic acid prior to conception and during the first 12 weeks of pregnancy by eating folate rich foods (e. g. green leafy vegetables, dried beans fruits, enriched breads, cereals etc) including foods fortified with folic acid or by taking daily dietary supplements. The aim of this study was to find out whether the women in child bearing age were aware of the importance of taking folic acid before conception and during the first trimester of pregnancy.

EXPERIMENTAL

Materials and methods

The study was conducted during April – Aug 2007, in pharmacies located in Hyderabad city. Participants were chosen randomly, criteria being that they were female and aged between 16-40 years (Child bearing age). Participation was on a voluntary basis and anonymity was ensured. Sampling was conducted at different times of the day and on different days to ensure that a wide cross section of the community was questioned. The

questionnaires were self-administered by the clarification of pharmacist and to take over completed questionnaires to ensure that all the questions were answered. Two hundred and fifty women answered questionnaire. The questionnaire required the information regarding age, whether they were pregnant or planning for pregnancy. If pregnant, whom they would consult for advice regarding importance of vitamins, folic acid, ferrous salts and other supplements during pregnancy. But many of the participants were unaware of importance of folic acid.

RESULTS AND DISCUSSION

Seventy eight percent of women in this study were not aware of importance of vitamins or other supplements, 22% were taking supplements. Twenty percent of the women had been pregnant in the past or during the time of the study. Though 12% had taken multivitamin or iron or both, only 5.2% were aware of the importance of folic acid during pregnancy. Results are given in Table 1.

Sixty two percentage of the women said they would go to their doctor for help and advice during pregnancy; family members were the next source of advice. Pharmacists were rated low on the scale for advice only 6% of the women would use them as a source of advice during pregnancy. One must take into account that this result might be even lower, if the study had not been conducted in a pharmacy.

Table 1. Number of various age groups women participated in the study.

Age groups (yrs)	No. of women participated	Number of women aware to take folic acid	% of the group aware of folic acid	No. of women pregnant at the time of the study
16-19	27	0	0	0
20-24	39	2	0.8	17
25-29	57	3	1.2	22
30-34	65	5	2.0	7
35-40	62	3	1.2	4
Total	250	13	5.2	50

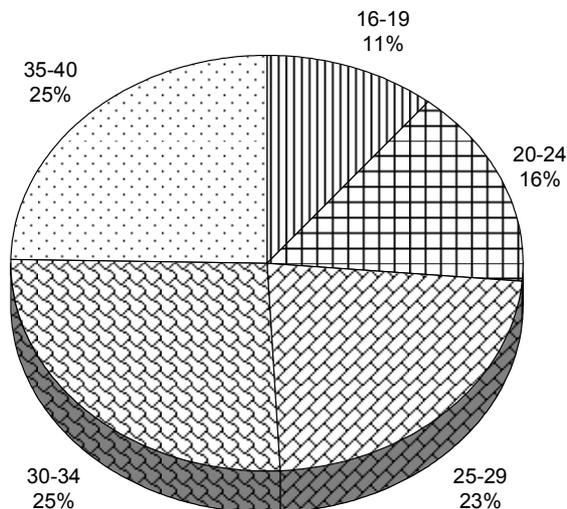


Fig. 4: Age groups and number of women participated in the study

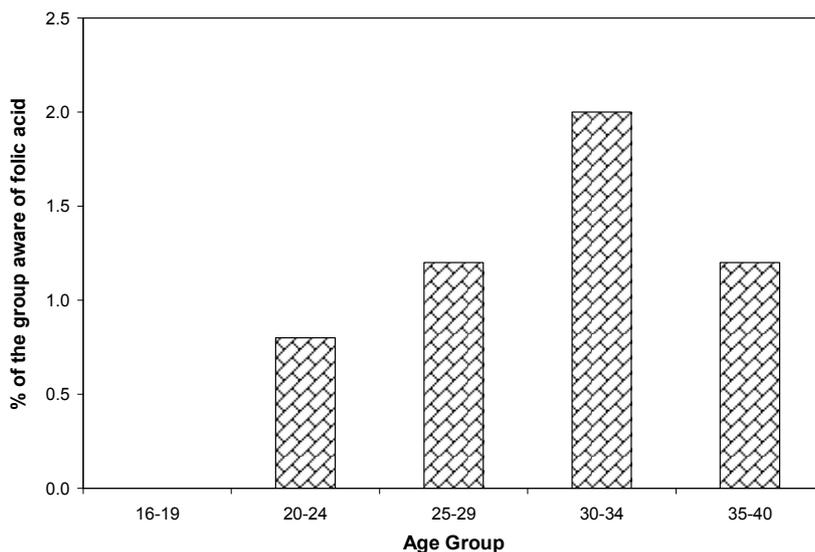


Fig. 5: Age groups and % of the group aware of folic acid importance

Only 13 women (5.2%) surveyed were aware of the necessity to take folic acid during pregnancy. There is a massive deficiency in public awareness, indicating an urgent need for better and more forceful campaigns to educate women in this area. It is important

to note that although in this study, doctors were seen as the most important source of advice, only a small number of women would go to their doctor before they plan to conceive and the majority would see their doctor after conception, when the advice about folic acid may be too late. This principle also applies to midwives, dentists, nurses and other health care professionals in spite of having better knowledge. Pharmacists were rated poorly as source of advice. Pharmacists can have an important role in advocating folic acid message to fertile women. Pharmacy is an ideal environment to target women and their family members possibly, when women are still obtaining contraception from the pharmacy. Leaflets are particularly useful but window displays and promotion sites can also be used. Increasing the involvement of pharmacists in this area will help to raise the professional profile of the pharmacist as an expert for women to go for advice during pregnancy.

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