

ARTICLE

Knowledge, Attitude and Practice Regarding Folic Acid among Pregnant Women in Benghazi, Libya.

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Abstract

Periconceptional folic acid supplementation has been shown to decrease the occurrence of neural tube defects (NTD's). In a cross-sectional study, the knowledge attitude and practice regarding the peri-conceptional use of folic acid were assessed among the pregnant women in Benghazi, Libya. 131 women attending antenatal clinics in three main polyclinics were interviewed through three polyclinics. Seventy-three percent of the participants had heard about folic acid, and only 37% could correctly identify the effect of folic acid when used periconceptionally. 27% of the pregnant women did not take folic acid during their present pregnancy. Only 6% of the women who took folic acid were taking it consistently before pregnancy with the aim of preventing NTDs. This study shows that the interviewed pregnant women reveal high positive attitude (88%) toward retaking folic acid supplements in their next pregnancy. The overall knowledge regarding the periconceptional use of folic acid was relatively low when compared to other studies worldwide. Health education regarding the periconceptional use of folic acid among newly married couples is recommended.

Keywords: Libya, Pregnancy, Women Health, Neural tube defects, Folic acid.

Introduction

Folic acid helps the development of neural tube growth. The neural tube is what develops into the baby's brain and spinal cord (1-4). Without folic acid deficiency, the neural tube may not close correctly. This may lead to open or occult forms spina bifida. Insufficient folic acid can also cause anencephaly (1-4).

The different neural tube defects (NTD's) types, including spina bifida, anencephaly, and encephalocele lead to lifelong disability and premature death. Neural tube defects are caused by the failure of the open neural tube to close by the 29th-day post conception. To prevent these defects, a daily supplement of 400 micrograms folic acid is recommended starting a month before conception to the end of the first trimester. A mother with a previous NTD's offspring should consume 4000 micrograms of folic acid per day. Each year, approximately 4000 pregnancies result in spin bifida or anencephaly (1-4). Folic acid supplementation has been shown to reduce the annual number of NTDs affected pregnancies by 50 to 70%. Despite evidence, most women are not aware that folic acid prevents neural tube defects and its supplementation rates have remained too low (5).

The recommended amount of folic acid was not known by 75-80% of women in their reproductive age in the USA (6). Review of the literature suggest that understanding of folic acid consumption has not been well studied, particularly in the developing countries (7-14). Hence this study was conducted to assess the level of knowledge of Libyan pregnant women regarding folic acid supplementation.

Patients and Methods

Objectives

We aimed to address three questions. First, to assess the level of folic acid awareness among Libyan pregnant women including their knowledge of its natural sources, usefulness in preventing NTDs and periconceptional intake recommendation. Second, to ascertain their actual intake of the Folic acid during the periconceptional period for the prevention of NTDs. Third, to explore the attitude regarding folic acid taking during their future pregnancies.

Settings

A cross-sectional study was conducted in the antenatal clinics in three polyclinics in Benghazi (Almajory, Sidi Hussain, and Boatny clinics) from the 1st of April to the end of October 2014. All the Libyan pregnant women who came to the selected polyclinics in the period of data collection were included.

Data analysis

Data was collected by direct interview using a questionnaire. The questionnaire covered four domains: demographic data, knowledge, attitude and practice of the pregnant women regarding folic acid supplementations.

Socio-demographic character	Frequency	Percentage
Age (years):		
<= 20	9/131	7%
21-30	59/131	45%
30-40	47/131	36%
>40	16/131	12%
Education:		
Primary	5/131	4%
Secondary	80/131	61%
University	46/131	35%
Parity:		
Primigravida	79/131	60%
2 nd gravid	34/131	26%
3 rd gravid or more	18/131	14%

Results

A total of 131 mothers were interviewed at the three poly clinics. 52% of the pregnant women were less than 30 years of age; 60% of were primigravida and 61% of them had the middle-grade education (lower and upper secondary level) (Table 1).

The knowledge-related data is summarized in Table 2. Nearly three quarters heard about folic acid, and just over one-third correctly knew its benefit. 12% knew the food items containing folic acid and 16% were aware of the proper time of folic acid supplementation in pregnancy.

Health care workers were the main source of information regarding folic acid for 78% of the pregnant women who heard about folic acid (Figure 1).

Table 2. Knowledge related information among the study population

Knowledge domain	N	%
Subjects heard about folic acid	95/131	73%
Subjects correctly knew regarding benefit of folic acid	48/131	37%
Subjects correctly knew the food items containing folic acid	16/131	12%
Subjects correctly knew the proper time of folic acid supplementation in pregnancy	21/131	16%

Table 3. The practice of taking folic acid supplements among the pregnant women.

Patients' practices	N	%
Folic acid supplements use in the current pregnancy (N=131):		
Did not take folic acid	36/131	27%
Took folic acid	95/131	73%
Time of supplementation (N=95):		
Before pregnancy	6/95	6%
During first month of pregnancy	19/95	20%
After 1st month	70/95	74%
Method of supplementation (N=95):		
Daily	81/95	85%
Interrupted	14/95	15%
Dosage (N=95):		
Recommended (400 microgram)	77/95	81%
Not as recommended	18/95	19%

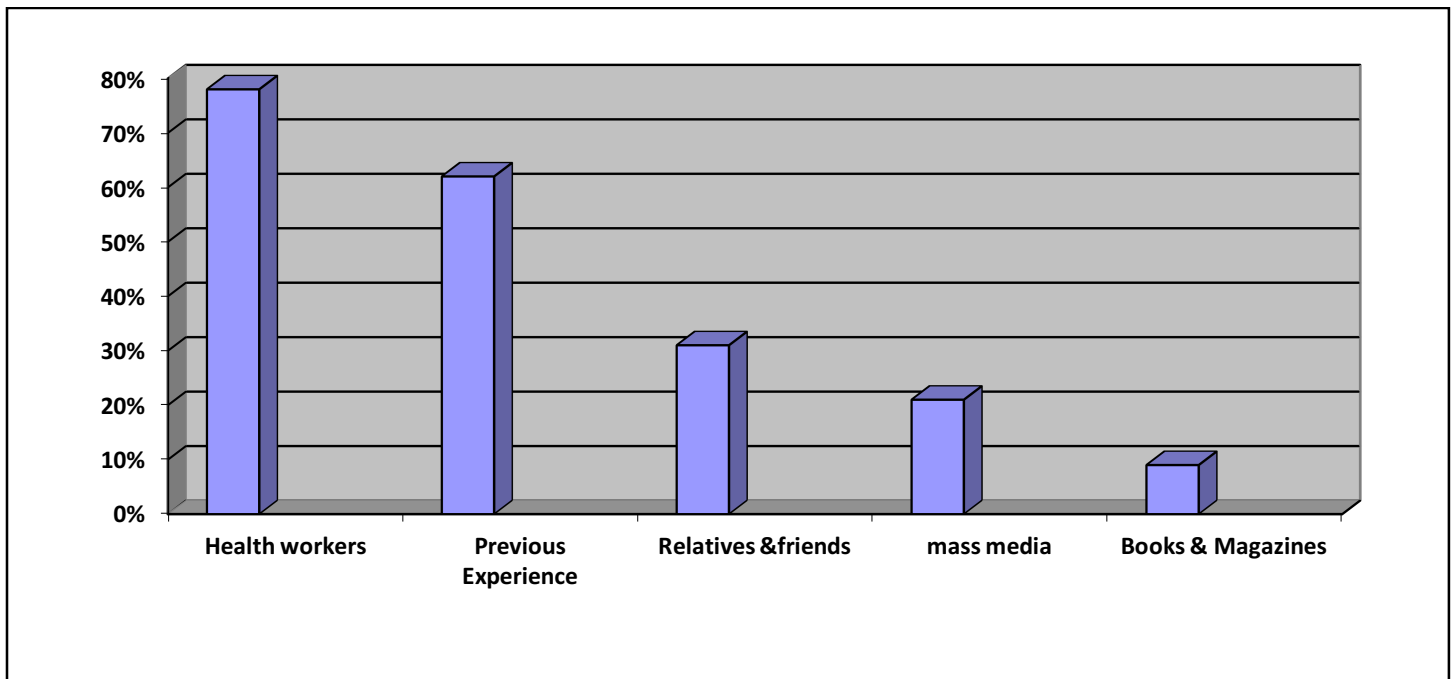


Figure 1. Source of information regarding folic acid.

The responses to questions on the practice of taking folic acid supplements among the pregnant women showed that only 27% patients took folic acid in the current pregnancy. The time of supplementation was: before pregnancy in only a minority of 6%, during the first month in one-fifth and after the first month in about three-quarters of the respondents. Supplementation was taken daily by 85% but interrupted by the remainder. The dose was concordant with the recommended dose (400 micrograms) by 81% but different from the recommended dose in the remainder.

The attitude of the study population toward advising other women who wish to become pregnant to take folic acid was variable. 76% of women responded affirmatively to the question if they would you advise other women who wish to become pregnant to use folic acid. 88% of the interviewed pregnant women have a positive attitude towards taking folic acid supplements again in future pregnancies.

Discussion

The present study showed that nearly three quarters of the pregnant women were aware of folic acid as a vitamin supplement, over one third understood that folic acid contributes to the prevention of NTDs but less than one in

seven were knowledgeable of the recommendation for periconceptional folic acid intake aimed at preventing NTDs. This level of folic acid awareness is comparable to 36.0% and 53.7% reported from China and Qatar respectively (15,9). However, these folic acid awareness rates are remarkably lower those reported from Thailand and Australia (76.1% and 89.0% respectively) (16,17).

This relatively low rate of awareness among the study population could be as a result of the majority of them were primigravida and have no previous intake of folic acid supplements. This is supported by the fact that the most common source of information about folic acid was through health workers for 78% of the study population. Such low level of awareness of the role of folic acid in the prevention of NTD's is surprising, as over 95% 96% of the women in our study had some formal secondary education (locally known as preparatory or secondary schools). This highlights the pressing need for public health education targeting women of reproductive age on the importance of folic acid being a reproductive health-promoting supplement.

Despite the availability of scientific evidence on the prevention of NTDs by folic acid supplementation and its

recommendation by health authorities, 27% of the pregnant women did not take folic acid during this pregnancy. Only 6% of the women who took folic acid were taking it consistently before pregnancy with the aim of preventing NTDs. Similarly low pre-conceptual folic acid intake rates (6.9% and 2.7%) were reported by women in Spain and Ireland respectively (11,18). This is at variance with the reports from the two developed North American nations (Canada and USA) where 25-45% of pregnant women would take folic acid during the pre-conceptual period (19,20). The worryingly low-intake rate of folic acid supplements may be attributable to the high rates of unplanned pregnancies in our community.

Only 20% of the women who took folic acid took it in the 1st month of pregnancy, and this low rate can be attributable to late presentation for antenatal care and delayed prescription of the folic acid for women during pregnancy. Only 12% could correctly identify a natural source of food rich in folic acid. Low levels of knowledge of the natural sources of folic acid have also been reported from Thailand, and Turkey (32.4% and 39.3% respectively) were reported (16,21).

The main source of information about folic acid among the surveyed women was through the health workers. This is in contrast to the findings from elsewhere where the media was the main source of information about folic acid (11,16). More efforts are, therefore, needed to promote awareness about folic acid through the media because of its wider coverage among the population. Hence, young females will also benefit and use the knowledge positively when married and this will contribute to the overall increase in the correct use of folic acid for the primary prevention of NTDs among women of reproductive age in our community.

This study revealed a high positive attitude (88%) toward retaking of folic acid supplements in future pregnancies, and also in advising other women who wish to become pregnant to use folic acid (76%).

The study was adversely influenced by the recent armed conflict in Libya. In October 2014, military operations spread to Benghazi, so data collection stopped as two of the polyclinics were shut due to the civil war. Hence, the size of the study was curtailed.

In conclusion, there is a low overall level of awareness of folic acid among Libyan pregnant women including lack of understanding of its natural sources, usefulness in preventing NTDs and periconceptual intake recommendation. This level was lower than previous reports. The main source of information about folic acid among the women being through the health workers argues for the need for more education through the media. About quarter of the study population did not take folic acid during the pregnancy. The low preconceptional intake rates of folic acid among the pregnant women is particularly alarming. Antenatal and population health promotion programs aimed at enlightening women of childbearing age about the importance of folic acid, its rich natural sources and the need for periconceptual intake for it to prevent NTD. More efforts are needed to promote awareness about folic acid through the media because of its wider coverage among the population. Hence, young females will also benefit and use the knowledge positively when married and this will contribute to the overall increase in the correct use of folic acid for the primary prevention of NTDs among women of reproductive age in our community. The positive attitude towards retaking folic acid supplements in future pregnancies and recommending it to other women who wish to become pregnant open more opportunities for education. Also, change in practice such fortification of stable foods with folic acid may be well received. These have been shown to increase folic acid intake among women, which will eventually contribute to the prevention or reduction in the burden of NTDs in our population.

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Disclosures

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