



Pregnant Women's Knowledge on Preconceptional and Conceptional use of Folic Acid in Rania City

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ABSTRACT

Background: Pregnancy is one of the most important periods in the life of woman. Nutrition plays an essential role in the development of a healthy pregnancy. The importance of the taking adequate essential vitamins such as Folic acid both before and during pregnancy is emphasized for the wellbeing of a developing embryo.

Objectives: The purpose of this use study is to assess the level of pregnant woman's Information regarding adherence of using folic acid supplementation in Rania City.

Methodology: In a descriptive cross section study, 100 women were selected. On the basis of questionnaires and interviews, data was obtained during the month of (December, 2020 to March, 2021). Data was analyzed using SPSS Version 23.

Results: The obtained information revealed that (71%) of pregnant women had intermediate level of knowledge Although excellent knowledge of folic acid was only (14%). Doctors are major sources for promoting awareness about folic acid. There is a significant relationship between the knowledge, level of education, age group, and monthly income. There were more women with high levels of knowledge among those who had lower parities, had more education, and were looking for health-related information.

Conclusion: Results acquired have shown some understanding towards the perception of folic acid among pregnancy. Therefore, it is important to increase the awareness of folic acid supplementation among women who are or planning to become pregnant.

Keywords: Pregnant women, Knowledge, Folic acid, Rania City.

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INTRODUCTION

The neural tube is an embryonic structure where the brain and spinal cord develop by the 28th day following conception, a flat sheet of cells has fused to create a closed tube. When the neural tube fails to seal completely, abnormalities in the brain and spine occur, with the most frequent related diseases being spina bifida and anencephaly (1).

Prenatal folic acid supplementation has been shown to greatly reduce the risk of having a baby with Neural tube defects (NTDs.). The United States recommended 400 µg of folic acid daily for women of childbearing age in 1992, and the Korean Nutrition Society has made the same guideline for women of childbearing age since 2010. The World Health Organization and many countries recommend that all women take a folic acid supplement from the moment they begin trying to conceive or from 4 to 12 weeks before pregnancy until 12 weeks of pregnancy, which is defined as the "Preconceptional use" (2,3).

Over the past generation, there has been major alteration in human intake of folic acid. For many years' folic acid was guessed to prevent neural tube defects, and was clearly proven to prevent such birth defects in 1991 (4).

A balanced diet is important for pregnant women, which consists of proteins, carbohydrates, vitamins, minerals and fats. Supplements do not replace a healthy diet but rather certify that a woman is taking sufficient daily nutrients. Folate (Vitamin B9) is a substance requirement for a range enzymatic reaction involved in amino acid synthesis and vitamin metabolism, and it is necessary nutrient that is involved in DNA replication. It is also essential for growth and development of the fetus so demand for folate increase during pregnancy. Folate deficiency has been linked with abnormalities in both mother's anemia, peripheral neuropathy and fetuses' congenital abnormalities (5).

Folate (folic acid) is needed for red blood cells to form and grow. Can get folate by eating green leafy vegetables and liver. However, your body does not

store folate in large amounts. So need to eat plenty of foods high in folate in order to maintain your levels of this vitamin at normal levels (6).

Folic acid has become recognized as an important nutrient during pregnancy although the majority of women do not consistently take folic acid before conception despite recommendations. According to the most recent national figures, just 30% of women who had a recent pregnancy used folic acid daily before getting pregnant (7,8 and 9).

AIMS OF THE STUDY

The purpose of this study is to assess the level of pregnant woman's Information regarding adherence of using folic acid supplementation in Rania City.

METHODOLOGY

Quantitative design, cross-sectional descriptive study which uses the assessment approach and it was conducted on pregnant women in Rania City from December, 2020 to March, 2021. The study conducted among pregnant women at (Maternal and Pediatric Hospital & Kewarash healthcare Center) in Rania City. Non probability purposive sample of 100 pregnant women. The content Validity of the instrument was determined through a panel of ten experts. Experts were provided the instrument by their opinions about the suitability of the items included in the form. The majority of the experts agreed upon the items of the study with some comments and suggestions. So far, the modifications are employed and the final copy of the instrument is completed and become valid to be an appropriate tool for data collection.

For the pilot study ten pregnant women who visited to "Maternal and Pediatric Hospital & Kewarash health care center" were randomly selected, therefore the internal consistency in this study (Chronbach's alpha 0.72) which derived out by SPSS Version 23.

The final study forms were then interviewed the 100 pregnant women. Revised structured questionnaire was used to collect data from the pregnant women. A researcher interviewed participants by prepared questionnaire. The 100 questionnaire were filled in the (Maternal and pediatric Hospital & Kewarash health care center) in Rania city. To present data we used mean and standard deviation. To evaluate the estimate precision, we presented its 95% confidence Interval. To compare between the subgroups, we used Chi square test. The questionnaire was labeled and coded by the principal researchers, data was reviewed for accuracy and completeness and analyzed using SPSS (IBM Corp. Released 2013. IBM SPSS Statistics for Windows, Version 23.0. Armonk, NY: IBM Corp) and appropriate statistical techniques.

An assessment tool is constructed in a form of a questionnaire was utilized proper data collection. It was consisting of two parts:

Part I: Socio-demographic Characteristics

This part includes some demographic data of pregnant women and it was consisting of (10) items (age, age at marriage, place of resident, occupational status, level of education, monthly income, gravida, miscarriages, and NTDs).

Part II: information items regarding adherence of using FA

It was consisting of 10 items which in front of each item, there are multiple choices. As well as, this tool measures the respondent's interview- reported level of information regarding adherence of using folic acid with higher scores indicating more frequent performance. The minimum and maximum level of information were 0 and 10, respectively. The higher score represents a maximum level of information with respect to FA. Which is divided into three grades: Low level (0-3), intermediate level, (4-7), and High level (8-10).

Inclusion criteria

Pregnant women who are available at the time of data collection in (Maternal and Pediatric Hospital & Kewarash health care center) in Rania city and accepted to participate in the study are included.

Exclusion criteria

The pregnant women who did not unwilling to participate excluded.

Limitations of the Present Study:

There is few limitations were identified in this study. The sample size was small in numbers, the sample was derived from only one city and therefore may not be generalized to the whole pregnant women populations.

Ethical Considerations:

Ethical approval was provided by the Ethics Committee of the University of Raparin/ College of Nursing. Also letter of permission was sent from College of Nursing to Directorate of Health/ Raparin Administrative which also sent to (Hospital and Healthcare center) before conducting this study. Before collecting data, verbally consent was obtained from each participant. The respondents were informed about the purpose of the study and that participating in this study was voluntary. Furthermore, the participants were told that their answers were kept confidential and only used for research purposes.

RESULTS

Table 1 shows the pregnant women's general characteristics. Participants were classified into three categories by age: ≤ 22 years (26%), from 23 to 29 years (45%), and from 30 years and above were (29%), their mean age and +SD was 26.41+5.45 years, ranging from 16-39 year.

Half of the participants (51%) married before the age of 21. As a result of this, almost all of the participants (89%) were housewives. Furthermore, only 23% of them graduated. Overall, the study indicated that just (14%) of pregnant women had excellent knowledge of folic acid, regarding

conceptional and Preconceptional use of folic acid shown in the Table 2.

The significant relationship was found between knowledge of folic acid to independent variables such as age group ($p < 0.01$), level of education ($p < 0.01$), monthly income ($p < 0.01$). Table 3.

DISCUSSION:

Pregnancy is one of the most important events in a woman's life ⁽¹⁰⁾. Nutrition plays an essential role in the development of a healthy pregnancy. The pregnant women do not only need to have an understanding of the essential nutritional elements but she must also be able to assess and modify her diet for the developing fetus and her own nutritional maintenance ⁽¹¹⁾. World health organization (WHO) recommended to give all pregnant women a standard dose of 60 µg to 400 µg folic acid daily for six months ⁽¹²⁾.

This study was conducted in Rania City, one hundred pregnant women participated in this study respectively among their answers High level of knowledge was only found in a few numbers of participants, and most of them scored Intermediated level of knowledge. Hedyeh Riazi et al in Iran, has reported the same result that few members have high knowledge but most of the study group have intermediate knowledge ⁽¹³⁾. The lack of information in this study may be explained by the fact that most women married at an early age, the majority of them were housewives and were not educated. A particular strategy to promoting folic acid consumption and addressing barriers to intake is a preconception counseling.

In this study most of the women are in their multigravida and this result is on contrary with study finding conducted by Nasir and her colleague, that found most of participants were primigravida ⁽¹⁴⁾. Fortunately, hundred percent of study samples lack of history of child with NTDs as well as, the study conducted by Onur Erol and his colleague (2013),

that found more than 98% of them have no history of NTDs ⁽¹⁵⁾.

Study results shown that most of the participants heard the term of folic acid. This finding is similar to studies in Nigeria where authors noted that most women of childbearing age had heard of folic acid ^(16,17).

In relation to the source of information, the study findings that doctors are the major source of information this finding is similar to those reported in few studies ^(13,18,19). This reinforces the role of doctors in informing, educating and communicating with women about their health ⁽¹⁷⁾.

About The timing of the effect of folic acid supplementation for effective prevention of fetus malformation a high percentage (of the women in this study were aware of the right time to start using folic acid, this result therefore lower than study reported by Samr 2017 in tabuk city ⁽²⁰⁾. however higher than the result of the study stated by Omowumi 2017 ⁽¹⁷⁾.

The study showed that the majority of women were taking folic acid during their pregnancy. In addition to the majority of them aware of the right time of the folic acid effect on formation of fetus body feature although the finding is low compared to that reported by Omowumi 2017 in Negeria who found that 98.3% of the women were taking folic acid in their pregnancy ⁽¹⁷⁾.

In our study 47% of respondents don't know what is the folate but the majority of them believe that folate could be obtained in all following sources (grain legume, vegetable, and fruit). This result higher than another study conducted in Tabuk city (2017) by Samr et al, which more than 27% of them did not know what is the folate however it is same result regarding folate source ⁽²⁰⁾.

CONCLUSIONS:

The finding of this study confirmed that women's awareness on preconception folic acid supplementation is low. Our results suggest that

public health strategies are needed to increase the preconceptional use of folic acid among women.

RECOMMENDATIONS:

The study recommends that the current Folic Acid recommendations for the prevention of Neural tube defects are reviewed and communicated effectively by healthcare professionals and public health agencies.

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TABLES:

Table (1): Socio-demographic Characteristics of study Samples

	Variables	Frequency	%
Age group	≤ 22	26	26%
	23 – 29	45	45%
	≥ 30	29	29%
Age at marriage	≤ 20	51	51%
	21 – 25	35	35%
	≥ 26	14	14%
Place of resident	Urban	45	45.0%
	Sub-urban	40	40.0%
	Rural	15	15.0%
Occupation	Governmental employee	8	8.0%
	Self employed	1	1.0%
	Student	2	2.0%
	House wife	89	89.0%
Level of education	Illiterate	13	13.0%
	Able to read and write	22	22.0%
	Primary graduate	31	31.0%
	Secondary graduate	11	11.0%
	Institute graduate	14	14.0%
	Collage and post graduate	9	9.0%
Monthly income	Sufficient	67	67.0%
	Barely sufficient	21	21.0%
	Insufficient	12	12.0%
Gravida	Primary	36	36.0%
	Second	28	28.0%
	Third and more	36	36.0%
Miscarriage	One	22	22.0%
	Two	3	3.0%
	Nil	75	75.0%

Table (2): Levels of pregnant women's knowledge regarding folic acid

Level of knowledge	Frequency	%
Low level	15	15.0
Intermediate level	71	71.0
High level	14	14.0
Total	100	100.0

Table (3): Relationship between pregnant women's knowledge with sociodemographic variables

Variables	Low level		Intermediate level		High level		Total	P Value	
	No.	%	No.	%	No.	%			
Age Groups	≤22	6	23.1%	20	76.9%	0	0.0%	26	0.008
	23-29	2	4.4%	32	71.1%	11	24.4%	45	
	≥30	7	24.1%	19	65.5%	3	10.3%	29	
Place of resident	Urban	6	13.3%	33	73.3%	6	13.3%	45	0.132
	Sub-urban	6	15.0%	31	77.5%	3	7.5%	40	
	Rural	3	20.0%	7	46.7%	5	33.3%	15	
Occupation	Governmental employee	0	0.0%	4	50.0%	4	50.0%	8	0.088
	Self-employee	0	0.0%	1	100.0%	0	0.0%	1	
	Student	0	0.0%	2	100.0%	0	0.0%	2	
	House wife	15	16.9%	64	71.9%	10	11.2%	89	
Level of education	Illiterate	6	46.2%	7	53.8%	0	0.0%	13	0.001
	Read and write	5	22.7%	16	72.7%	1	4.5%	22	
	Primary graduate	2	6.5%	24	77.4%	5	16.1%	31	
	Secondary graduate	2	18.2%	7	63.6%	2	18.2%	11	
	Institute graduate	0	0.0%	8	57.1%	6	42.9%	14	
	Collage and post Graduate	0	0.0%	9	100.0%	0	0.0%	9	
Monthly income	Sufficient	6	9.0%	47	70.1%	14	20.9%	67	0.014
	Barely sufficient	5	23.8%	16	76.2%	0	0.0%	21	
	Insufficient	4	33.3%	8	66.7%	0	0.0%	12	
Gravidity	1	7	20.0%	26	74.3%	3	5.7%	36	0.09
	2-3	2	7.1%	22	78.6%	4	14.3%	28	
	≥4	6	16.7%	23	63.9%	7	19.4%	36	
Age at Marriage	≤20	9	17.6%	35	68.6%	7	13.7%	51	0.537
	21-25	3	8.6%	28	80.0%	4	11.4%	35	
	≥26	3	21.4%	8	57.1%	3	21.4%	14	

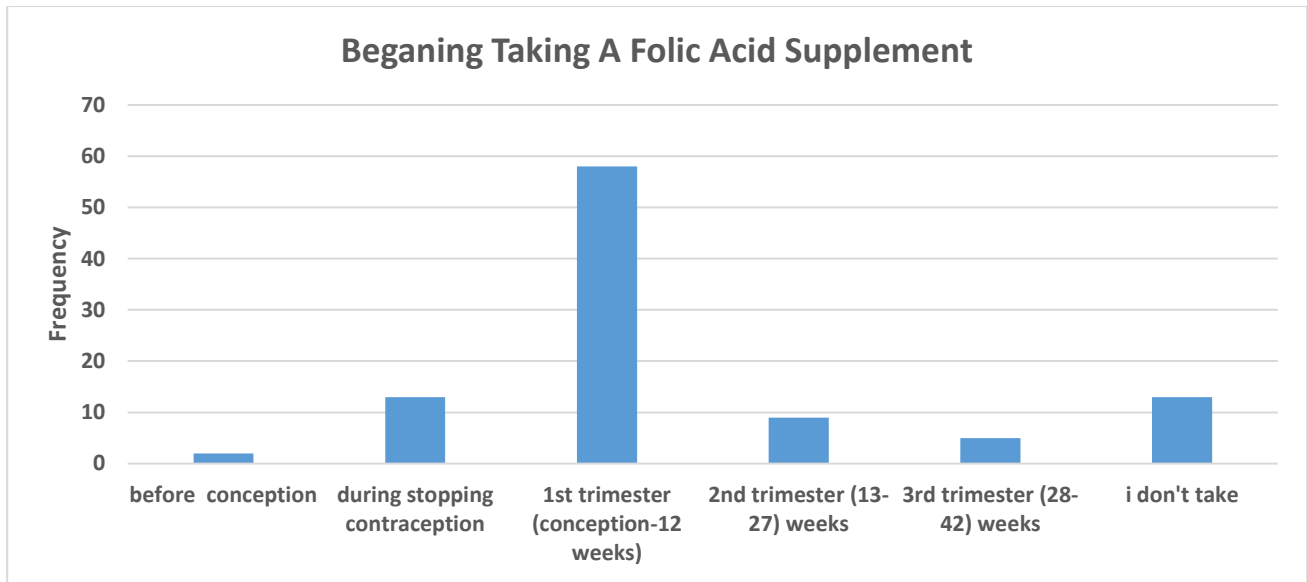


Figure (1): Time of start taking FA

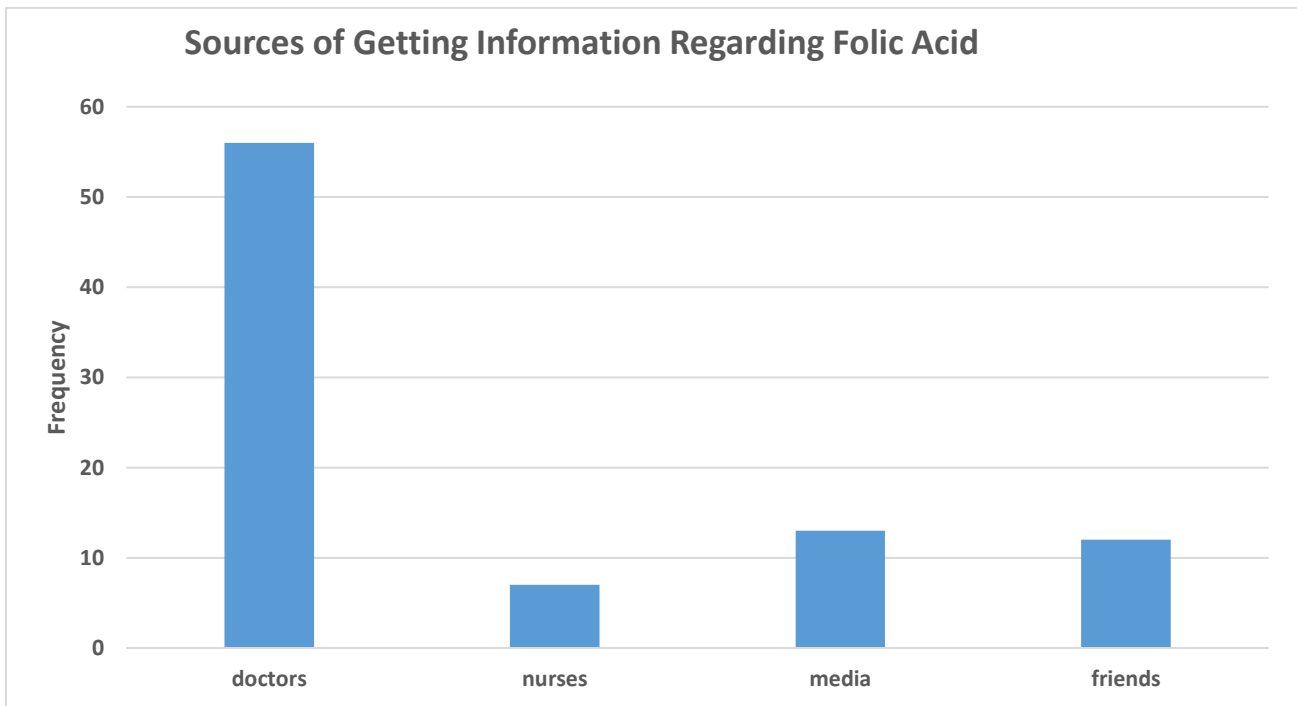


Figure (2): Sources of getting information regarding folic acid