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ORIGINAL ARTICLE

Knowledge about Folic Acid Supplementation for Prevention of Neural Tube Defects among Gynecologist and Paediatric Surgeon

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ABSTRACT

Aim: To assess the knowledge of gynecologist & Paediatric Surgeon about the role of folic acid in prevention of neural tube defects.
Study design: Cross Sectional Study
Setting & duration of study: Department of Paediatirc Surgery, KEMU/Mayo Hospital Lahore from 1st November to 15 December.
Methodology: After ethical approval data was collected on a questioner performa created on google doc regarding demographic variables, knowledge about neural tube defects, dose and timing of folic acid supplementation in prevention of neural tube birth defects.
Results: 70% of the doctor who took part in this study work between 20-30 year of age. 50% were male & 50% were female.
Majority of doctors (80%) have experience of 1-10 years after graduation.
The participants doctors include postgraduate residents (68%) followed by consultant (11.1%), Medical Officer, Senior Registrar, Registrar & House Officer. 90.7% were government employee most of them have knowledge about meningomylocele but majority of them (57.4%) did not have proper knowledge about dose and timing of folic acid supplementation for prevention of neural tube defects.
Conclusions: We conclude that most of gynecologist and paediatric surgeons don't have sufficient knowledge about role of folic acid in prevention of neural tube defects, specially meningomyelocele in children. There is a need to launch awareness campaign among healthcare providers through social media, symposium, and newspaper about supplementation of folic acid before conception in women so that this important disability condition/disease incidence may be reduced
Keywords: Meningomyeloclele, Folic Acid Supplementation, Prevention

INTRODUCTION

Neural tube defects are birth defects of the brain, spine or spinal cord. They happen in the first month of pregnancy, often before a woman even knows that she is pregnant. The two most common neural tube defects are spina bifida and anencephaly.Recently a meta-analysis showed that voluntary peri-conceptional Folic Acid supplementation, as Neural Tube Defect have disappointing results[1,2]. 4-5% of babies are born with serious congenital anomalies[3]. Folic Acid taken orally prior to conception & during early stage of pregnancy plays a role in preventing neural tube defects[4,5]and also other congenital anomalies such as heart defects[6,7,8]. Urinary tract anomalies, oral facial[6,9,10]defects and limb defects[6].They are preventable birth defects and have detrimental physical. Psychological and social impact on children and their families.

There is a strong evidence collected form observational and randomize controlled trials which shows that folic acid can prevent the occurrence of Neural Tube Defects at primary and secondary level[11]. Internationally supplementation with 400-ug-Folic Acid is recommended. Today at least 82 countries have maintained a nationwide mandatory fortification program which includes industrially milled cereal grain products (e.g. wheat flour, maize, or rice) fortified with Folic Acid[12]. Gynecologists, obstetricians and paediatric surgeons play an important role in dealing with patients of neural tube defects[13].

Rationale: To know the baseline knowledge of paediatric surgeons and gynecologists about periconceptional use of Folic Acid for Neural Tube Defects so that awareness campaign may be launched through media, symposium and healthcare provider about Folic Acid role in prevention ofNeural Tube Defects.

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METHODOLOGY

After ethical approval data was collected on a questioner Performa created on google doc regarding demographic variables, knowledge about neural tube defects, dose and timing of folic acid supplementation in prevention of neural tube birth defects.

RESULTS

Seventy percent of the doctor who took part in this study work between 20-30 year of age (Table-1). 50% were male & 50% were female (Table-2).

Majority of doctors (80%) have experience of 1-10 years after graduation (Table-3).

The participants doctors include postgraduate residents (68%) followed by consultant (11.1%), Medical Officer, Senior Registrar, Registrar & House Officer (Table-4).

90.7% were government employee (Table-5). Most of them have knowledge about meningomylocele but majority of them (57.4%) (Table-6) did not have proper knowledge about timing (Table-7) and dose(Table-8) of folic acid supplementation (for prevention of neural tube defects.

Table-1

Age (years)	n	%age
22-32	07	70
32-42	01	10
42-52	00	00
>52	02	20

Table-2

Gender	n	%age
Male	05	50
Female	05	50

Table-3

No. of years in practice	n	%age
00-01	00	00
01-05	04	40
05-10	04	40
>10	02	20

Table-4

Designation	n	%age
Professor	00	00
Associate Professor	02	3.7
Assistant Professor	00	00
Consultant	06	11.1
Senior Registrar	02	3.7
Registrar	01	1.9
Postgraduate Resident	34	68.6
Medical Officer	04	7.5
House Officer	01	1.9
Private Practicing Doctor	01	1.9

Table-5

Sector	n	%age
Government	49	90.7
Private	05	9.3

Table-6

Knowledge about NMC	n	%age
Yes	54	100
No	00	00

Table-7

Time to give Folic Acid	n	%age
Before Conception	06	11.1
Around Conception	21	38.9
1st Trimester	26	48.1
2nd Trimester	01	1.9
3rd Trimester	00	00

Table-8

Dose of Folic Acid for prevention	n	%age
0.4mg/Day	16	29.6
01mg/Day	04	7.4
02mg/Day	03	5.6
05mg/Day	31	57.4

DISCUSSION

We aimed to do study to look for awareness about use of folic acid supplementation in child bearing age women for prevention of neural tube defect (Meningomylocele) in children because we were receiving lot of such cases in our department. There is very little work being done on this issue in our country even most of the physician (Gynecologist & Pediatrics) did not know about folic acid role in prevention of this disease. Although some similar studies are available but not in physician awareness assessment. In our study majority of physician (57.4%) lack knowledge about exact timing and does of folic acid supplementation during pregnancy for prevention of meningomylocele. We assessed 54 gynecologist and paediatric surgeons. In a study done by Aggarwal et al 48 pediatricians, 54 obstetricians and 100 recent qualified medical graduates participated[14]. They also have lack of knowledge about does and timing of folic acid supplementation similar to our study. According to another study 88% of gynecologist but only 60% of physicians recommend folic acid before conception[15]. Even in USA 50% of family physician do not have knowledge of correct low risk does for prevention of neural tube defect[16]. Although the correct low risk does of folic acid is 400ug(0.4mg) but majority of physician in our study recommended dose of 5mg/day. As far as timing of folic acid supplementation is concerned, it should be given before conception but in our study only 11% physician recommended it before conception which indicates great gap in true awareness about proper does and proper timing of folic acid. As in our country most of the pregnancies are unplanned so there is need to use folic acid daily during child bearing age among all women. Braspenningx et al has stressed perinatal counseling approach to produced better understanding of knowledge and perception about folic acid[17]. Many other studies have observed the trend of lack of knowledge about role of folic acid[18,19,20].

Strengths and limitation: The strength of our study is that neural tube defect (meningomylocele) is one of the important congenital anomalies which results in severe morbidity (lower limb paralysis, fecal and urinary incontinence. These complications are almost incurable. The prevention of neural tube defects is possible up to 70% with periconceptional use of folic acid for which awareness creation is necessary among healthcare providers& child bearing age women. The limitation of study is that study design is cross sectional and data is limited. There is need to conduct study at larger level at multi centers.

CONCLUSION

We conclude that most of gynecologist and paediatric surgeons don't have sufficient knowledge about role of folic acid in prevention of neural tube defects, specially meningomyelocele in children. There is a need to launch awareness campaign among healthcare providers through social media, symposium, and newspaper about supplementation of folic acid before conception in women so that this important disability condition/disease incidence may be reduced

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