Original Article

KNOWLEDGE REGARDING TERATOGENIC DRUGS AMONG WOMEN IN A SELECTED HOSPITAL AT MANGALORE WITH A VIEW TO DEVELOP AN INFORMATION BOOKLET: A DESCRIPTIVE SURVEY APPROACH

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Abstract

Background of the study: Caution with regard to dietary intake during pregnancy has been advised since ancient times and this is true even today, more so for the use of drugs in pregnancy. Drug use during early pregnancy is not different from non-pregnant women. The knowledge of women regarding teratogenic drugs has an effect on their health.

Methodology: Quantitative approach with a typical descriptive design was adopted in the present study. Purposive sampling technique was used for the selection of the sample. A close-ended structured knowledge questionnaire was used to assess the knowledge of women on teratogenic drugs. The study was conducted in selected Hospital, at Mangalore, with the sample size of 100 women. After data collection, the information booklets regarding teratogenic drugs were distributed to women to improve their knowledge.

Results: Descriptive and inferential statistics were used to analyse the data. Assessment of the level of knowledge of the women showed that the highest percentage (64%) of the sample had moderate knowledge; 25% of the women had poor knowledge, 9% of the women had good knowledge and only two percent of the women had very good knowledge on teratogenic drugs. Present study results reveals that there was significant association between knowledge score and demographic variable.

Conclusion: The overall knowledge regarding teratogenic drugs in the study population was 45.67%. Hence, it is concluded that the knowledge of women was not adequate enough therefore further improvement in knowledge was still needed in this area.

Keywords: Teratogenic drugs; information booklet; descriptive study.

INTRODUCTION

Pregnancy is a special physiological condition, where drug treatment presents a special concern. It is due to the threat of potential teratogenic effects of drug and physiological adjustments in the mother1.

Teratogenicity due to drugs is a serious type of adverse drug reaction, as it is manifested in the offspring at the time of delivery and is attributable to the maternal medication during pregnancy. Interest in this field of study was intensely stimulated all over the world soon after the Thalidomide tragedy: which took an epidemic form in Europe and Australia in 1961, when several thousand malformed babies were reported to be born to mothers who had received the drug during pregnancy4.

Drugs can cause problems throughout pregnancy. For example, the early part of pregnancy is the most critical for the health of a foetus. This is when the main body systems are forming. Using drugs during this time can cause severe damage. Drugs can have harmful effects on the foetus at any time during the pregnancy, their nature depending on the timing of exposure. During the first two weeks of development, the embryo is thought to be resistant to any teratogenic effects of drugs. While some medications are considered safe to take during pregnancy, the effects of other medications on the unborn baby are unknown.3 There appears to be a general perception that the use of any drug at any time during pregnancy can harm the developing embryo or foetus. All medications should be viewed with caution in pregnancy.5

The specific risks of drug use depend on a number of factors including the type of drug used, at what point during pregnancy the drug was used, and the frequency of drug use. In general, drugs cause miscarriage, stillbirth, small size, low birth weight, premature birth, birth defects, sudden infant death syndrome and drug dependency in the infant.3

Drug use early during pregnancy can affect the developing organs and limbs of the foetus. Even one episode of drug use during this period can affect the development of child. Often the result is a birth defect or miscarriage. Drug use later in pregnancy can affect development of the baby's central nervous system.6

Therefore, it is very important to pay special attention to medications taken while a woman is pregnant, especially during the first trimester, a crucial time of development for baby.1 Management of medication use in pregnancy ideally begins with adequate preconception counselling and pre-pregnancy planning. If woman is taking prescription medications before she became pregnant, should ask her health care provider about the safety of continuing these medications as soon as she finds out that she is pregnant. So that the health care provider will weigh the benefit to woman and the risk to her baby when making recommendation about a particular medication.1 Medications used in pregnancy require clear identification of indication for use, duration of treatment, expected outcome, and signs or symptoms requiring early termination of their use. When in doubt consultation with an expert in maternal-foetal medicine is strongly recommended.5

This study is intended to assess the knowledge and provide adequate information of women who are attending selected hospital regarding teratogenic drugs as this knowledge will help them to take adequate precautions for themselves and disseminate to others.

Methods

A quantitative approach with descriptive survey design was used to collect the data from the samples. Assessment of knowledge was done by administering the close-ended structured knowledge questionnaire to the sample. Reliability of the knowledge questionnaire was r=0.97. Data was collected from women attending in Yenepoya Medical College Hospital at Mangalore. Participants were informed about the nature and purpose of the study and informed consent was obtained. The study population consisted of 100 mothers. Approximately 25 mothers were selected per day and 20- 30 minutes were taken to complete the questionnaire. The data was collected and recorded systematically on each subject and was organized in a way that facilitated computer entry. Data was analysed by SPSS 16.0 version. The results were expressed as frequency and percentage. P value <0.05 was taken as statistically significant.

Results

Part I: Description of demographic characteristics of women.

Table I: Description of demographic characteristics of women

Sl. No.	Demographic variable	Frequency	Percentage
1.	**Age of the women**		
	18-30	67	67
	31-40	25	25

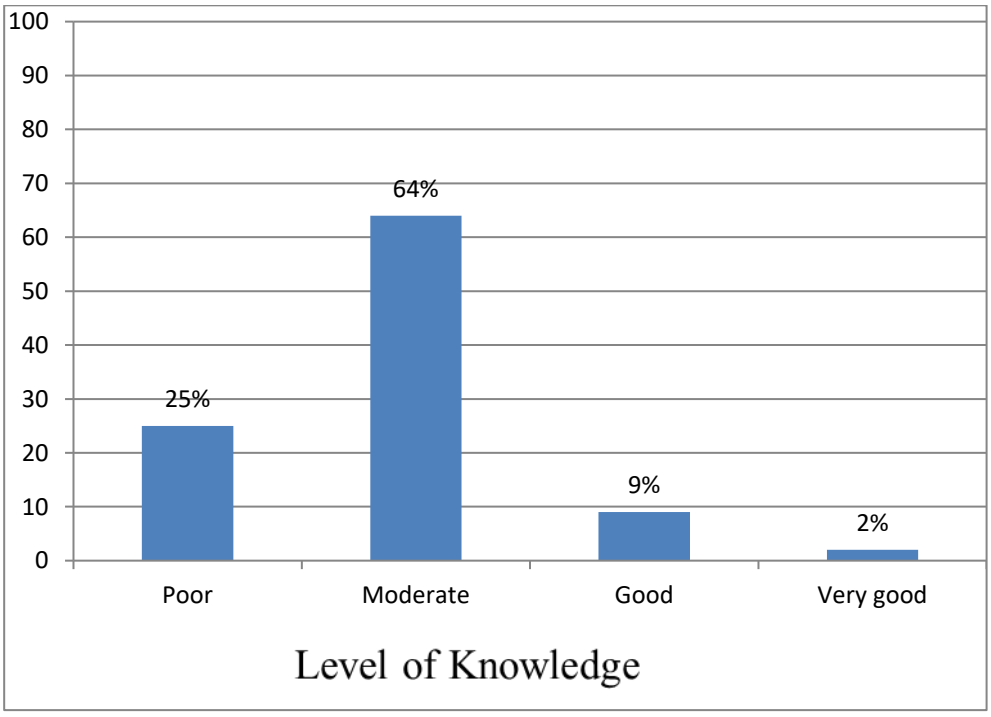
	41-50	8	8
2.	**Women's religion**		
	Hindu	18	18
	Muslim	71	71
	Christian	11	11
3	**Type of family**		
	Nuclear family	94	94
	Joint family	3	3
	Extended family	3	3
4	**Women's education**		
	No formal education	10	10
	Primary education	53	53
	Secondary education	19	19
	Higher secondary	6	6
	Graduate & above	12	12
5	**Marital status**		
	Single	15	15
	Married	84	84
	Widow/separated	1	1
6	**Parity**		
	Nullipara	18	18
	Para-1	27	27
	Para-2 & above	55	55
7	**Occupation of women**		
	Housewife	64	64
	Daily wage earner	18	18
	Private job	7	7
	Self-employment	8	8
	Government employee	3	3
8	**Family income**		
	Below Rs.13,000	44	44
	Rs.13,001-15,000	21	21
	Rs.15,001-17,000	14	14
	Rs.17.001 and above	21	21
9	**Do you have previous information on teratogenic drugs?**		
	Yes	17	17
	No	83	83

10	**Source of information**		
	Mass media	11	61
	Relatives	1	6
	Health personnel	6	33

As per Table 1, the percentage distribution of women according to their age shows that highest percentage (67 percent) of the sample belonged to the age group of 18-30 years, 25 percent belonged to the age group of 31-40 years, and 8 percent belonged to the age group of 41-50 years. Based on religion which reveals that 71 percent were Muslims, 18 percent were Hindus, 11 percent were Christian's and no other religion was mentioned. The result also illustrates that highest percentage of women (94 percent) came from nuclear family and 3 percent of women lived in joint family. Those belonging to extended family comprised 3 percent. The data collected on the educational status of women as shown in the Table 5 reveals that the highest percentage (53 percent) of the subjects had studied up to 7th standard, 19 percent had studied up to 10th standard, 12 percent studied up to graduation & above, 10 percent had no formal education and six percent had studied up to higher secondary class. The distribution of subjects based on marital status which reveals that 84 percent were married, 15 percent were single, 1 percent were mentioned widow/separated. The distribution of subjects based on parity which reveals that 55 percent were para-2 and above, 27 percent were Para-1, 18 percent were mentioned was nullipara. Also reveals that 61 percent of the subjects got information from mass media, relatives gave information to 33 percent subjects and six percent subject got information from health personnel. The highest percentage (64 percent) were house wives, while 18 percent were daily earners, seven percent were employed in private firms, eight percent. Nearly 44 percent of the subject had a family income of below Rs. 13,000; 21 percent had a family income of Rs. 13,001-15,000; 21 percent had family income of Rs. 17,001 and above and 14 percent had a family income of Rs. 15,001-17,000. And it also reveals that 83 percent of the subjects were not heard about teratogenic drugs where as 17 percent of the subjects were heard about teratogenic drugs.

Part II: Analysis of existing knowledge of women regarding teratogenic drugs

Table 2: Level of knowledge of women regarding teratogenic drugs



Part III: Association between knowledge of the respondents on teratogenic drugs and demographic variables

Sl. No.	Variable	Calculated χ^2 value	P value
1.	Age in years	31.07	.152 (NS)
2.	Religion	28.181	.252 (NS)
3.	Type of family	12.050	.979 (NS)
4.	Educational Status	53.349	.276 (NS)
5.	Marital status	23.280	.503 (NS)
6.	Parity	19.979	.698 (NS)
7.	Occupation	40.089	.785 (NS)
8.	Monthly income of the family	33.093	.608 (NS)
9.	Previous knowledge on teratogenic drug	11.443	.491 (NS)
10.	Source of information on teratogenic drug	10.609	.389 (NS)

$P \leq 0.05$

Data presented in the table indicates that chi-square value of demographic like age, religion, type of family, marital status, parity, family income, educational status, occupation and sources of information regarding teratogenic drugs among women were not significant at 0.05 level of significant.

Discussion

Part I: Percentage distribution of sample with reference to demographic variables

The percentage distribution of women according to their age shows that highest percent (67 percent) of the sample belonged to the age group of 18-30 years, 25 percent belonged to the age group of 31-40 years, and 8 percent belonged to the age group of 41-50 years. The distribution of subjects based on religion which reveals that 71 percent were Muslims, 18 percent were Hindus, 11 percent were Christian's and no other religion was mentioned. The highest percentage of women (94 percent) came from nuclear family and 3 percent of women lived in joint family. Those belonging to extended family comprised 3 percent. The highest percentage (53 percent) of the subjects had studied up to 7th standard, 19 percent had studied up to 10th standard, 12 percent studied up to graduation & above, 10 percent had no formal education and six percent had studied up to higher secondary class. The distribution of subjects based on marital status which reveals that 84 percent were married, 15 percent were single, 1 percent were mentioned widow/separated. The distribution of subjects based on parity which reveals that 55 percent were para-2 and above, 27 percent were Para-1, 18 percent were mentioned was nullipara. The distribution of women according to their occupation, which shows that highest percentage (64 percent) were house wives, while 18 percent were daily earners, seven percent were employed in private firms, eight percent women were self-employed and the least three percent of women were government employee. Nearly 44 percent of the subject had a family income of below Rs. 13,000; 21 percent had a family income of Rs. 13,001-15,000; 21 percent had family income of Rs. 17,001 and above and 14 percent had a family income of Rs. 15,001-17,000. 83 percent of the subjects were not heard about teratogenic drugs, whereas 17 percent of the subjects were heard about teratogenic drugs. 61 percent of the subjects got information from mass media, relatives gave information to 33 percent subjects and six percent subject got information from health personnel.

A similar study conducted in Nottingham quotes that 50% of pregnant women would not take a course of drug as prescribed by the doctor. But magazines, friends and relatives were a more likely source of information about drugs during pregnancy than doctors and midwives. Fear of harming the foetus is the main concern for mothers, and it is important that the benefits and risks of treatment and of stopping treatment are explained in a balanced manner.7

Part II: Knowledge of women on teratogenic drugs

Assessment of the level of knowledge of the women showed that the highest percentage (64 percent) of the sample had moderate knowledge; 25 percent of the women had poor knowledge. 9 percent of the women had good knowledge. 2 percent of the women had very good knowledge on teratogenic drugs.

A similar study was conducted was to assess medication use, knowledge and beliefs about medications among 760 pregnant women in Saudi Arabia. The result revealed that most women had a positive attitude toward medications in general but they believed pregnant women should be more cautious regarding drug-use during pregnancy. A significant association was found between participants' education and occupation, and beliefs about medications. In this context, well educated women and those working in a health-related career demonstrated more correct beliefs about medications. Women with health-related occupations were more knowledgeable about the life saving effect of drugs on unborn children. Women indicated inadequate provision of drug-related information from physician and pharmacist; they rely on medication pamphlet to get such information. The most frequently used drugs were paracetamol and vitamins (13.2%). Most pregnant women (59.2%) were able to identify drugs to-be avoided in pregnancy that agreed roughly with FDA categories with 23 hits out of 32. They indicated that newborn anomalies (6.5%) were not attributed to drug-use during pregnancy.8

Part III: Association between knowledge score & selected demographic variables

Chi-square value of demographic like age, religion, type of family, marital status, parity, family income, educational status, occupation and sources of information regarding teratogenic drugs among women were not significant at 0.05 level of significant.

The present study findings were parallel to the study conducted in by University of Oslo's. The characteristics of the women that were associated with a high perception of risk were primiparity, higher age, higher education, and choosing not to use a drug during pregnancy. More than 80% of the women had used drugs during pregnancy, mostly paracetamol, penicillins and reflux medications.9

Conclusion

The level of knowledge of the women showed that the highest percentage (64 percent) of the sample had moderate knowledge; 25 percent of the women had poor knowledge. 9 percent of the women had good knowledge. 2 percent of the women had very good knowledge on teratogenic drugs. So the result of the study proved that women lacked knowledge on teratogenic drugs. The study also found that there were factors associated with the knowledge of women with their knowledge score.

The findings of the study showed that there is a need to educate all women on tertogenic drugs. By providing knowledge, women can take precautions regarding teratogenic drugs and able to have a healthy baby in the future. Hence health professionals can contribute to build up a healthy society by educating the women. This study can also be used as a reference material for educating the public regarding tertogenic drugs.

Conducting this study was an enriching experience for the investigator. It made the investigator to realize that lacked knowledge on teratogenic drugs and this has motivated her to take up further studies.

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REFERENCES

1. Sharma R, Kapoor B, Verma U. Drug utilization pattern during pregnancy in North India. Indian J Med Sci [serial online] 2016 [cited 2009 Nov 25]; 60:277-87. Available from: URL: http://www.indianjmedsci.org/text.asp? 2006 /60/7/277/26602
2. Michel DC, Pichereau J, Pathak A, Lacroix I, Montastruc JL. Perception of teratogenic and foetotoxic risk by health professionals: a survey in Midi-Pyrenees area. Pharmacy Practice 2018 Jan-Mar; 6(1):15-19.
3. Das BP, Joshi M, Pant CR. An overview of over the counter drugs in pregnancy and lactation. KUMJ 2016 Nov 28; 4(16): 545-551.
4. Sisodia P. Teratogenic Effects of Drugs: Indian J Pharm Sci 2012; 4(2): 51-64.
5. Bhowmik D, Chiranjib, Das BC, Kumar SKP. Emerging perspectives of risk and medication in pregnancy. Int J Pharm Jun 2020; 2 (2): 146-85.
6. Paul L. Obstetrics in Family Medicine: A Practical Guide. New Jersey: Humana Press Inc; 2016.
7. Rubin P. Drug treatment during pregnancy.Br Med J 1998 Nov 28; 317:1503-6.
8. Noha M. Zaki, Ahmed A. Albarraq. Use, attitudes and knowledge of medications among pregnant women: A Saudi study. Saudi Pharmaceutical Journal. Available online 23 October 2013.Available from: http://www.sciencedirect.com/science/article/pii/S1319016413001060
9. Nordeng H, Ystrøm E, Einarson A. Perception of risk regarding the use of medications and other exposures during pregnancy. Eur J Clin Pharmacol. 2010 Feb;66(2):207-14. doi: 10.1007/s00228-009-0744-2. Epub 2009 Oct 20.