

Knowledge, Attitude and Beliefs Regarding Medication Use in Pregnant Women – A Questionnaire Survey

¹Dr. Anju Mathew, Senior Lecturer, Pushpagiri College of Dental Sciences, Thiruvalla, Kerala

²Ashlin Mathew, PharmD, PSG College of Pharmacy, Coimbatore

³Dr. Lisa Elizabeth Jacob, Senior Lecturer, Pushpagiri College of Dental Sciences, Thiruvalla, Kerala

⁴Mr. Akshay T. L, PharmD, PSG College of Pharmacy, Coimbatore

Corresponding Author: Dr. Anju Mathew, Senior Lecturer, Pushpagiri College of Dental Sciences, Thiruvalla, Kerala

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Abstract

Aim: The present study aims to assess the knowledge, attitude and beliefs regarding medication use among pregnant women and provide appropriate measures to resolve this issue.

Materials and methodology: A prospective study was employed in pregnant women who were attending for antenatal care service at a tertiary care hospital from September 2019 to February 2020. A structured questionnaire was circulated among 500 pregnant women; Data were collected about their sociodemographic background, drug information resources, knowledge about medication use and beliefs about medications. Chi square test was used to correlate education level with certain beliefs of medication use among pregnant women.

Results: Out of 500 women approached, all of them agreed to complete the questionnaire survey and the mean age group of participants was 27.5 ± 5.5 years. 70% of the respondents assumed that all drugs are unsafe if taken during pregnancy. Paracetamol (35.5%) was among the top drugs consumed followed by

multivitamins. 42.4% of the pregnant women checked the leaflet of their dispensed medication while 19.8% never read the leaflet. About 62.8% women believed that doctors prescribe many medicines and half of the respondents (51.2%) consider these medicines to be additives.

Conclusion: In this study, overestimated and exaggerated beliefs of medication risks during pregnancy are a concern, though cautious drug use is essential and warranted. Adequate counselling has to be provided by physicians, pharmacists, and other healthcare experts to change pregnant women's conservative attitudes and misinformed beliefs on medication risk.

Keywords: Pregnancy, Awareness, Medications, Drug information, knowledge

Key message: Pregnancy is a physiological state where they undergo a number of changes, they are considered as special population who require attention in all means. In this regard, the lack of awareness about medication use is challenging. Thus health care experts

have to accomplish their role in providing utmost care in choosing the right drug at right time.

Introduction

Pregnancy is a unique physiological state where medication intake presents a challenge and concern due to drug crossing the placenta and altered drug pharmacokinetics probably causing harm to the foetus.^[1] During pregnancy period, it is impossible to completely avoid pharmacotherapy as this condition is often accompanied by medical conditions (e.g. thyroid disorders, epilepsy, diabetes, and hypertension) that demand ongoing and episodic treatment.^[2] There is evidence that inappropriate medications use during pregnancy may put the mother at greater potential risk for several maternal and foetal complications.^[3-5]

Self-medication practice is common worldwide. Self-medication, described as the fact of taking medicines by oneself, based on the symptoms, without prescription medical consultation, constitutes a public health major issue.⁶ Accordingly, the pregnant women take medication during their pregnancy; consume drugs including prescription and non-prescription (OTC) medications as well as herbal products and dietary supplement.⁷

Lack of clear information and inadequate data of pregnancy risk associated with medication intake in humans make the clinicians ill-equipped to take precise decisions while prescribing medication in this group of patients. The most common issue often observed in pregnant women is low adherence to medication due to the perceived safety risks of the prescribed medication. It is responsibility of the health experts to carefully explain the significant and substantial benefits and the minor risks associated with the medication intake. Counselling about medications is necessary not only to ensure patient compliance and good illness control

during pregnancy but also to allay the excessive fear of drug teratogenicity.⁸

Hence the present study aims to assess the knowledge, attitude and beliefs regarding medication use among pregnant women and provide appropriate measures to resolve this issue.

Subjects and Methods

This is a prospective study, carried out using a questionnaire circulated among 500 pregnant women in a tertiary care hospital. The study was conducted during a 6 month time frame [September 2019 to February 2020]. The questionnaire was structured according to the previous scientific literature and reports published globally. The standardized questionnaire began with a preface of the study and consisted of 20 questions in 4 sections. The first section explored the socio-demographic data of the study population, second section provided details on drug information resources, following which the third section deals with knowledge about medications use and fourth section on patient's beliefs on medication use during pregnancy.

The questionnaire was provided to each participant in English language and was also translated to their native language for those who were illiterate and was provided to the participants at Obstetrics and Gynaecology Department. The study protocol was explained to the participants in detail and informed consent was obtained from them. The participants were assured of the confidentiality of the information.

The data obtained was analyzed using the Statistical Package for Social Sciences (SPSS) version 19. Chi-square test was used to test for differences in proportions between answers given to each statement on patient's beliefs regarding medication use with respect to their education level.

Results

I. Sociodemographic Data of the Study Population

During 6 month period of data collection, 500 pregnant women were randomly selected and they agreed to complete the questionnaire (100% response rate) and were included in the final analysis. The mean age of the participants was 27.5 ± 5.5 years. Among 500, 37.8% were housewives and rest were employees. More than half of the respondents were Primigravida and 40.8% were multigravida. Almost half of the women (51.2%) resided in urban area and rest 48.8% in rural area. [Table 1]

II. Drug Information Resources

42.4% of the pregnant women checked the leaflet of their dispensed medication while 19.8% never read the leaflet. Almost half of the pregnant women (49.6%) reported that they got adequate information from the pharmacist who dispensed the prescribed medicine followed by their Gynaecologist (33.4%) and least from media (7%). [Table 3 and Graph 2]

III. Knowledge about Medication Use

Majority of pregnant women (70%) assumed that all drugs are unsafe if taken during pregnancy. In this regard, 33.6% of the respondents were not willing to take drugs. While observing the medication frequently used; Paracetamol (35.5%) was among the top drugs consumed followed by multivitamins (33.7%) and least taken medication was antihistamines (3.01%) as in Graph 1. 238 pregnant women took medication with proper prescription of their consulting doctor. Paracetamol was the most OTC drug among the respondents (59%) followed by antibiotic (17%) and least antiemetic (0.3%). Three – fourth of the pregnant women took prenatal supplements regularly. [Table 2]

IV. Beliefs about Medications

While observing the beliefs that pregnant women had on medication use ; About 62.8% women believed that doctors prescribe too many medicines and half of the respondents (51.2%) consider these medicines to be additives. Irrespective of their knowledge level ,almost 60% of pregnant women were aware about potential harm to fetus. Abnormality to child (52.3%) and abortion (26.1%) was the two common reasons for them to not take medications during pregnancy. Almost half of the respondents agreed that second trimester is the critical time for drug use during pregnancy followed by first trimester (25.6%). Majority of pregnant women (70%) were not aware of drugs that should be avoided in pregnancy period. 59.4% of them believed that natural remedies are better than medicines during pregnancy. [Table 4]

Chi-square test applied on the given data to assess if there is any relationship between education level and certain beliefs they had while taking medication during pregnancy and it was found to be statistically significant except on the belief that natural remedies are better than medicines. [Table 5]

Discussion

This survey was carried among 500 pregnant women to assess their knowledge, attitudes, and beliefs towards medication use and their associated factors. The insight of risk and belief on medication use will have utmost importance in the pregnant women's decision to seek healthcare services and develop medication adherence. It is of prime importance that pregnant women should be aware of the harmful effects of medications as partial understanding may lead to unwanted termination of pregnancy. More than half of the pregnant women stated all drugs are harmful during pregnancy in

accordance to the study carried out by Yonas Getaye in Ethiopia Hospital (2020)⁹, Noha M. Zaki et al in 2013.¹ Among this population, 66.4% used medications during the present pregnancy. These findings is almost comparable to the 64% in Ethiopia¹⁰, 64% in Canada¹¹, but lower than the 85.2% in Scotland¹², 93.9% in the United States¹³, 76.4% in the United Kingdom¹⁴ and 69.1% in Norway¹⁵. Moreover, the prevalence was greater than the 26.5% in Australia¹⁶, 46.8% in Ireland¹⁷, 49% in Iceland.¹⁸

In our study, 62.8% of the respondents believed that doctors prescribe too many medications and half of them stated most of medicines are additives. This was in agreement to study done by Noha M. Zaki et al in 2013¹, M. J. Twigg et al in 2016.¹⁹ Half of the study population stated the reason for taking medications as Abnormality to the child followed by abortion.

It was found that maximum of the pregnant women were not aware of drug use in pregnancy. The knowledge level was found to correlate with the educational level of these respondents. These results are analogous to those reported in a study conducted by Nordeng et al.²⁰ which showed that there was a significant association between women's education and their knowledge regarding drug use. In our study, illiterates believed that drugs in general were harmful, while women with a higher education were more reluctant to use any medication in pregnancy.

70.6% of the respondents were not aware of the medications that have to be avoided during pregnancy. A small population of respondents took medication without prescription of doctor. Health experts should provide preconception counselling to patients to improve the level of their knowledge. Physicians play a vital role during maternity period in providing adequate care and evidence based information about risk and

benefits of medication use during this period. Ideally, a woman who is planning pregnancy should consult her health care provider well before she becomes pregnant. Education played a great difference while associating the participant's education level and certain beliefs. Uneducated and pre- university women had a negative attitude towards medication use.

Health professionals play a critical role in allaying patients concerns and disseminating evidence-based information. Pharmacists act as a back bone during pregnancy as they are the first line of contact and the last professional met by patients after medicines have been prescribed. Pharmacists should be well aware of all the deleterious effect of medication while dispensing the medication to pregnant women. As they dispense medications to this patient group they require cautious consideration due to potential. Factors such as dose of drug, duration of its use, foetal age, benefit vs risk profile, pharmacokinetics / pharmacodynamics parameters must be carefully monitored.⁷

In the absence of proper counselling, patients may not have enough information about their medication, including the dosage regimen, side effects or a missed dose. Counselling provides an affirmative impact on knowledge, attitude and practice of pregnant women towards medication and thus it could be considered one of the effective measures to enhance medication adherence.

Conclusion

The present study was indicative of the attitudes and practice regarding medication use in pregnant women in South population. Pregnant women had uncertainties and were reluctant to use medicines during pregnancy. The pregnant women exaggerated the risks associated with medication use even though cautious drug use is essential and acceptable during pregnancy. Physicians,

pharmacists, and other healthcare professionals should provide adequate counselling to pregnant women to change their conservative attitudes and overestimated beliefs of medication risks. Appropriate health training can address outdated and cultural beliefs that will add advantage to promote proper drug use along with addressing the safety concerns during pregnancy. Health-care professionals should be mindful of women's attitudes while advising them to take medication during pregnancy. So far, only a few studies are reported in the literature on this topic in Indian population. Further studies should be carried out on larger sample size in various parts of the country to assess the knowledge and awareness of medication use among pregnant women.

Limitations

A limitation of this survey was the prevalence of well-educated women (31.6% reported a university degree) which might have prejudiced the analysis in terms of the respondents awareness of medications or the capability to acquire knowledge about drugs. Moreover, the study included 40.8% multigravida women who gained knowledge about drug use from their previous pregnancy. These two issues may affect the transferability of our findings on the whole population. The response rate was excellent where 100% of approached women completed the survey.

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Legend Tables and Graphs

Table 1: Socio demographic Data of the Study Population

Socio demographic Characteristics			Total	Percentage
Q1	Age	20 -25	170	34%
		26 - 30	210	42%
		31 - 35	120	24%
		36 and above	Nil	-
Q2	Educational Details	Illiterate	75	15%
		Primary	82	16.4%
		Secondary	169	33.8%
		University	158	31.6%
Q3	Occupation	House wife	189	37.8%
		Health related employee	116	23.2%
		Employee (Others)	195	39%
Q4	Residence	Urban	256	51.2%
		Rural	244	48.8%
Q5	Number of Pregnancy	Primigravida	296	59.2%
		Multigravida	204	40.8%

Table 2: Drug Information Resources

Source Of Drug Information			Total	Percentage
Q6	Do you read the leaflet before taking medication	Yes	212	42.4%
		No	99	19.8%
		Sometimes	189	37.8%
Q7	Who is the main source of awareness about the drug safety and medication use during pregnancy?	Doctor	167	33.4%
		Pharmacist	248	49.6%
		Media	35	7%
		Others	50	10%

Table 3: Knowledge about Medication Use

Medication Use			Total	Percentage
Q8	All drugs are harmful during pregnancy	Yes	350	70%
		No	150	30%
Q9	Medication Use during pregnancy	Yes	332	66.4%
		No	168	33.6%
Q10	Group of medication taken	Paracetamol	118	35.5%
		Antibiotics	25	7.5%
		Antacid	20	6 %
		Antihistamines	10	3.01%
		NSAIDS	12	3.6%
		Antiemetic	25	7.5%
		Multivitamins	112	33.7%
Q11	Medication Use with prescription of doctor	Yes	238	71.6%
		No	94	28.3%
Q12	Commonly used OTC drug	Paracetamol	196	59%
		Antibiotics	57	17%
		Antacid	145	29%
		Antiemetic	102	20.4%
Q13	Regular intake of Prenatal supplements	Yes	396	79.2%
		No	104	20.8%

Table 4: Patients Beliefs

Patients Beliefs			Total	Percentage
Q14	Doctors prescribe too many medications	Yes	314	62.8%
		No	186	37.2%
Q15	Most of medicines are additives	Yes	256	51.2%
		No	244	48.8%
Q16	Medicines do harm to fetus	Yes	296	59.2%
		No	204	40.8%
Q17	Reasons for not taking medication	Abortion	44	26.1%
		Abnormality	88	52.3%
		to the child	12	7.1%
		Death to the mother	14	8.3%

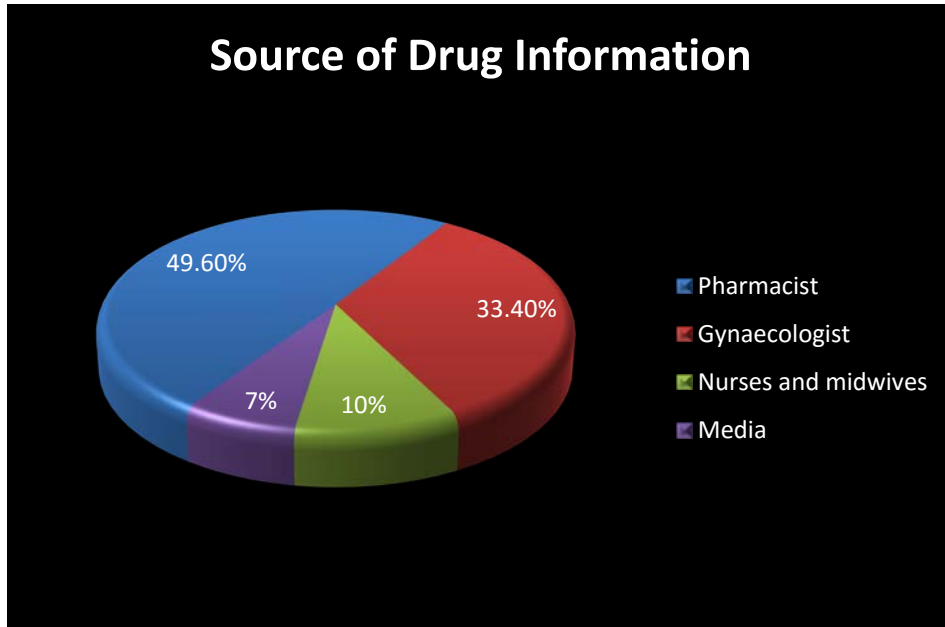
		Death to both the fetus and mother	10	5.9%
		I don't know		
Q18	What is the critical time for drug use during pregnancy?	First trimester	128	25.6%
		Second trimester	256	51.2%
		Third trimester	116	23.2%
Q19	Do you know the main drugs that should be avoided during pregnancy?	Yes	147	70.6%
		No	353	29.4%
Q20	Natural remedies are better than taking medicine	Yes	297	59.4%
		No	201	40.2%

Table 5: Correlation between Education Level Of Women And Patients Beliefs

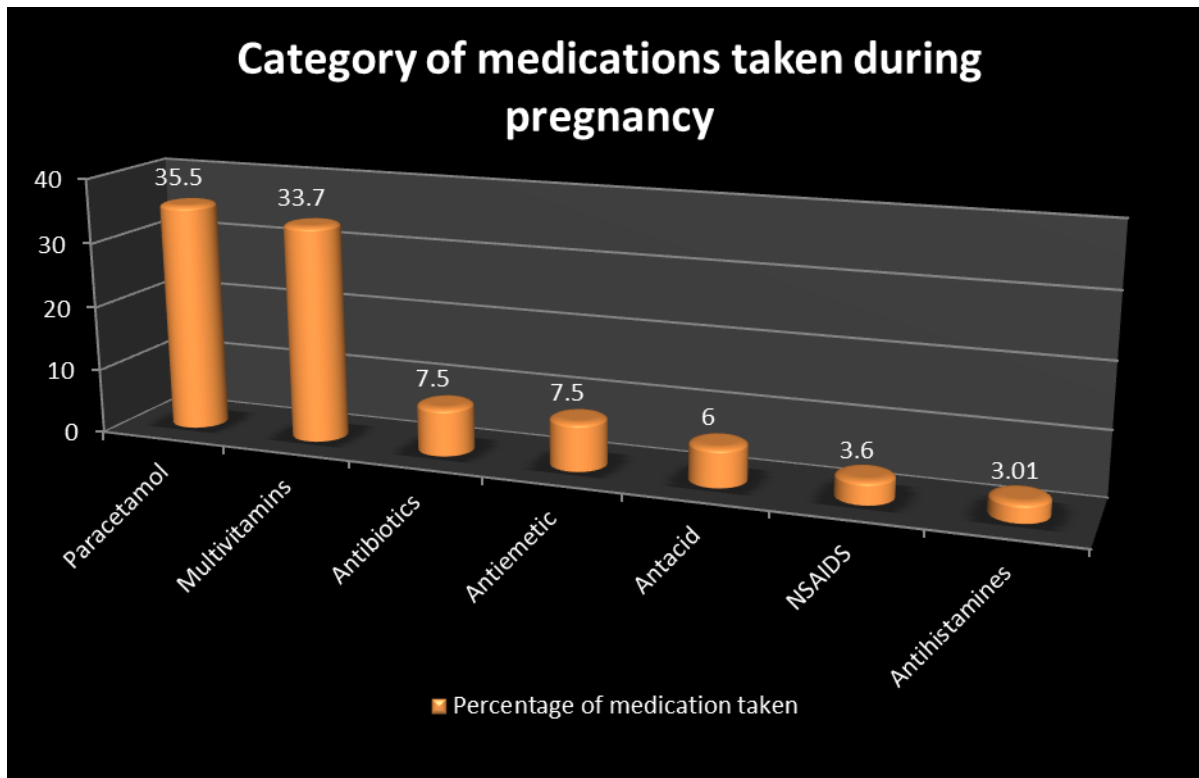
Patients Beliefs	Non educated		Pre - university (Primary Secondary)		University		Chi-Square Statistic	p value
	Yes	No	Yes	No	Yes	No		
Doctors prescribe too many medications	Yes	70	Yes	89	Yes	49	92.623	<0.001*
	No	5	No	162	No	109		
Most of medicines are additives	Yes	67	Yes	86	Yes	70	70.78	<0.001*
	No	8	No	165	No	88		
Medicines do harm to fetus	Yes	72	Yes	95	Yes	81	78.15	<0.001*
	No	3	No	156	No	77		
Do you know the main drugs that should be avoided during pregnancy?	Yes	10	Yes	129	Yes	112	67.52	<0.001*
	No	65	No	122	No	46		
Natural remedies are better than taking medicine	Yes	22	Yes	72	Yes	39	0.93	>0.05
	No	53	No	179	No	119		

<0.001* - Highly significant, >0.05 – Not significant

Graph 1: Drug Information Resources



Graph 2: Category of Medications Taken During Pregnancy



Respondent No: _____

Knowledge, Attitude And Beliefs Regarding Medication Use In Pregnant Women – A Questionnaire Survey

This is a questionnaire survey carried out with the purpose to assess the knowledge and perception of medication use among pregnant women.

I. Sociodemographic Characteristics

1. AGE:

20 -25 26 – 30 31 – 35 and above

2. EDUCATIONAL DETAILS:

Illiterate Primary Secondary University

3. OCCUPATION:

House wife Health related employee Employee (Others)

4. RESIDENCE

Urban Rural

5. NUMBER OF PREGNANCY

Primigravida Multigravida

II. Medication Use

6. Do you feel that drugs are harmful during pregnancy?

YES NO

7. Do you prefer taking medication during pregnancy?

YES NO

8. Which is the most common group of medication taken?

Paracetamol Antihistamines NSAIDS
Antibiotics Antacid Antiemetic
Multivitamins

9. Do you take medication with prescription of doctor

YES NO

10. What are the commonly used OTC drugs?

Paracetamol Antibiotics Antacid Antiemetic

11. Do you regularly take your prenatal supplements?

YES NO

III. Source of Information

12. Do you read the leaflet before taking medication?

YES NO SOMETIMES

13. Who is the main source of awareness about the drug safety and medication use during pregnancy?

Doctor Pharmacist Media Others

IV. Patient Beliefs

14. Do you feel doctors prescribe many medications?

YES NO

15. Most of medicines are additives

YES NO

16. Does medicines do harm to foetus?

YES NO

17. Reasons for not taking medication

Abortion Abnormality to the child Death to the mother

Death to both the foetus and mother I don't know

18. What is the critical time for drug use during pregnancy?

First trimester Second trimester Third trimester

19. Do you know the main drugs that should be avoided during pregnancy?

YES NO

20. Natural remedies are better than taking medicines

YES NO