



## Assessment of the Knowledge, Attitude, and Practice regarding Medication use in Pregnant Women at the University of Medical Center in Mukalla Directorate– Yemen.

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### Abstract:

**Background:** The possible teratogenic effects of various drugs and the mother's physiologic modifications and responses to pregnancy consider drug use during pregnancy a specific source of concern. Due to the risk to both the mother's health and the unborn child's life, drug use during pregnancy requires special consideration. The medication or metabolite concentration may even be higher in the embryo or fetus compartment than in the mother. The fetus is therefore treated as an "additional" patient and requires careful pharmacotherapeutic strategy. Lack of proper medication knowledge and practice among pregnant women might eventually have serious impacts on the health of both the mother and child. Thus, effective interventions are required to enhance pregnant women's knowledge, attitude, and practice regarding safe medication during pregnancy. Therefore, the purpose of this study was to assess knowledge, attitudes and practice (KAP) regarding medication use in pregnant women at the University Medical Center in Al-Mukalla District - Yemen. **Subject and Methods:** The study design was a

descriptive cross-sectional -based study carried out from (September-November- 2023) among 400 randomly pregnant women attending clinics at the University of Medical Center. by using a self-administered questionnaire. **Results:** The statistical analysis for data obtained in this study showed that the majority percentage of the prevalence of drugs used during pregnancy was (52%), (49%) about half of pregnant women used drugs in the first trimester. Vitamins and antibiotics were the main drugs used (47%), (18 %) respectively. (3%) of pregnant women who had children with congenital malformation. They had a positive awareness of the medication risks on the fetus in pregnant women, the main source of information was doctors ( 84 % ) but (2%), and (4%) of them they didn't know any things about the risk of the drugs on pregnant women or on the fetus and (4%) of them they had not any source of information, also we found that (45%) of the doctors didn't play a positive role to clarify the risk of the use of medicine to pregnant women to correct

what we found in pregnant believes the highest percentage (59%) one was “ Drink vitamins and drugs may increase fetus size and difficult delivery”. Conclusion: The present study indicates that the prevalence of drugs used during pregnancy was mainly vitamins and antibiotics were used, On the other hand, the doctors didn’t play a positive role to clarify the risk of the use of medicine by pregnant women or fetuses correctly. Although doctors and pharmacists were the main sources of information for pregnant women. Also, we found that the Drink vitamins and drugs may increase fetus size and difficult delivery” was the opinion of most pregnant women. It is therefore an urgent need to make them aware of the risks of drugs to ensure the safe use of medicines for pregnant women and fetuses.

**Keywords:** KAP, Medication use, pregnant women, Mukalla, Yemen

## Introduction

Drug treatment during pregnancy presents a special concern due to the potential teratogenic effects of some drugs and physiologic adjustments in the mother in response to pregnancy. (1, 2). The use of drugs during pregnancy therefore calls for special attention because in addition to the mother, the health and life of her unborn child are also at risk. (2). The drug or metabolite concentration may be even higher in the embryonic or fetus compartment than in the mother. As a result, the fetus as an "additional" patient demands a strict pharmaco-therapeutic approach (3).

The choice of a medicine during pregnancy is even more difficult, since some medicines may have serious side effects on the fetus. The potential effects of medicine on the fetus should always be considered and the medication regimen during pregnancy should be chosen in such a way that it maximizes the effectiveness while minimizing the maternal and fetal risk (4).

Healthcare facilities should ensure that patients receive sufficient knowledge about their medications before leaving the facility. Counseling is one of the suitable methods to impart this required knowledge. Effective counseling has been associated with better and positive outcomes in terms of knowledge, attitude, and practice of the safe and effective utilization of medicines during pregnancy. Thus, enhancing medication safety during pregnancy (5).

Besides prescription medicines, pregnant women may also take OTC (over-the-counter) medicines which need to be identified and addressed accordingly (6). Both physicians and pharmacists have an important role in making pregnant women know about their conditions, any complications they have during pregnancy, and the medications they are taking. Studies reveal that pregnant women often take medicines without sufficient knowledge (6,7). Self-medication habits among pregnant women have been found to be common in many developing countries (7) and many of them might not know the reason for taking medication (8).

A patient’s knowledge and capacity to get knowledge are important in the development of beliefs (8). Although some pregnant women may have sufficient knowledge about high-risk medication in pregnancy, there is a “general fear” from medications (9).

In Italy, previous studies showed that the prevalence of pregnant women using at least one medication was 48% after excluding vitamin and mineral products (10), 63.1% excluding supplements of iron and vitamins (9), and 70.4% excluding vitamins, mineral supplements, iron, and herbal or complementary medication products (10).

Therefore, the purpose of this study was to evaluate the knowledge, attitude, and practice (KAP) Practice regarding medication use in pregnant women at the University of Medical Center in Mukalla Directorate- Yemen.

**Material and Methods:**

**Study design:** This was a descriptive cross-sectional study of the knowledge, attitudes, and Practice regarding medication use in pregnant women at the University of Medical Center in Mukalla Directorate–Yemen, from September to November - 2023.

**Study area:** This study will be carried out among pregnant women clinics at the University of Medical Center during the period (September- November 2023).

**Sample size:** Stratified random sampling is the method of selection sample, to ensure that all pregnant women at the clinic in the University of Medical Center during the period (September- November 2023) are included in the study sampling. The sample was randomly chosen 400 pregnant women who attend the clinical from the total number visitor pregnant women.

To do this research we need to know the sample size which is calculated by the following equation: -  $ss = Z^2 * (p) * (1 - p) / c^2$

Where:

ss=size of the sample

Z=confidence level when 95 = 1.96% as tabled.

P=expected proportion

C=margin of error at 5% (standard value of 0.05) -confidence interval.

$SS = (1.96)^2 * (1-840) / (0.05)^2$

SS= 120 pregnant women.

So, we estimated a sample size of approximately for an assessment of the knowledge, attitude, and practice (KAP) Practice regarding medication use in pregnant women of 50%, a 95% confidence level, and a 5% margin of error.

**Data collection:** The data will be collected from different ages of pregnant women clinics in the University of Medical Center during the period (September- November) 2023. It was selected because provides

childbirth services in the geographic area. The Directors of the Centers received a letter about the survey and explained the purpose and the methodology. A self-administrated questionnaire was designed, which included the following:

- ❖ The personal data (age, level of education, employment status, and marital status,)
- ❖ Medical data (self-assessed general state of health, medical history, gestational age, number of pregnancies)
- ❖ Awareness of the medication risks on the pregnant women and fetus.
- ❖ The main sources of knowledge information on medication use among pregnant women clinics at the University of Medical Center–Mukalla Directorate –Yemen
- ❖ The role of doctors in awareness of the medication risks to pregnant women
- ❖ Medication use beliefs about medications used among pregnant women
- ❖ Medication used among pregnant woman

**Data analysis:** The data will be coded and analyzed by statistical package for the social sciences (SPSS version 19) to ensure the accuracy of data such as frequencies and percentages were calculated and presented in tables and graphs by using computer office programs (word and excel office 2013)

**Ethical Consideration:** Approval of the project will be obtained from nursing college management and we took a letter to the University of Medical Center management to facilitate our work and data collection. So, participants will be informed about the research including the objectives and ensuring confidentiality those are agree to participate will be enrolled in the study, and that information will be taken in secrecy and will be used just for the research objective and for the benefit of the community.

**Results:**

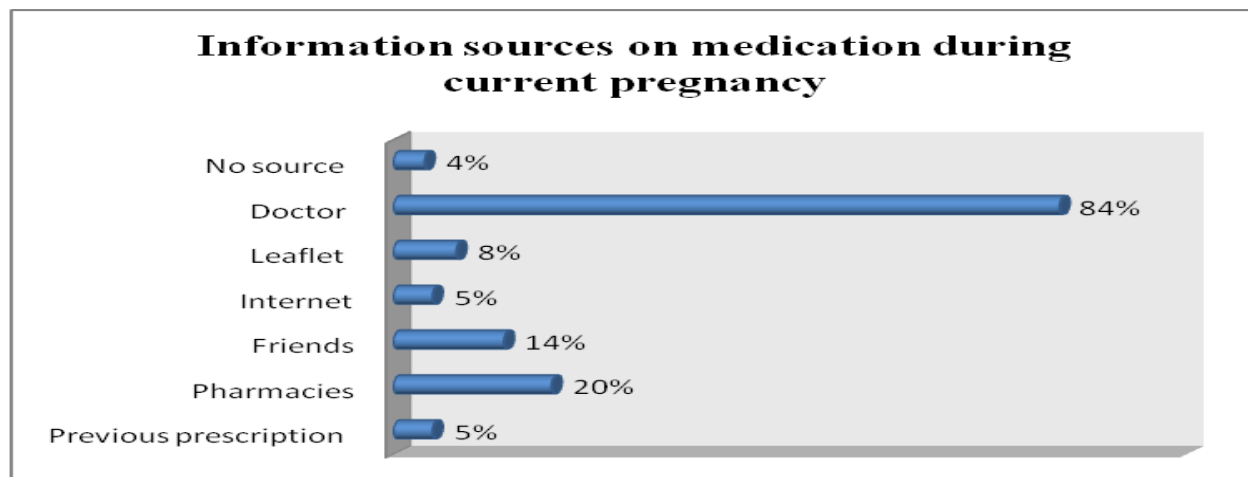
Four hundred respondents were approached for participation. All of them provided complete information. The demographic characteristics of the respondents were presented in **Table (1)** In our study, the majority percentage of the age was between (25-35) years (46 %). But according to the level of education, Middle school was the higher percentage (36% and the majority percentage of Occupation was House-wife (80%). On the Other hand, Heath stated characteristics of the respondents were the majority percentage of the Number of pregnancies was (42 %) first pregnancy, We found in our study that the prevalence of medication used during the current pregnancy was 52%, and medications were commonly used in the second (38%) and third (37%) trimesters We found also that 6% of pregnant women had chronic disease and (3%) did not change the drugs of chronic disease after pregnancy. Also, we found 2% of our respondents had congenital malformation.

**Figure (1)** shows that the most common source of updated knowledge about drugs information regarding medication use in pregnant women at the University of Medical Center in Mukalla Directorate – Yemen was study (84%) from doctors and (20%) from pharmacists but (4%) of the participants reported that they hadn't any source of information about drugs.

In our study, we reported that the role of the doctor was to clarify the risk of medication used in pregnancy (52%), but (48%) nearly half of the doctors did not explain the risk to them, as shown in **Figure (4)**. On the other hand, the majority percentage of the awareness of medication risks on pregnant women and fetus were abortion (42%) on pregnant women and congenital malformation (64%) on the fetus but the pregnant women did not know any information of the risk of drugs on pregnancy (2%) or on the fetus (4%) that shows in **figure (5,6)**.

**Table (2)** shows that the majority percentage of the pregnant beliefs about medications was that the doctors prescribed too many medicines (25%), The most medicines are additives (46%), natural remedies are safer than medicines( 48%), and drink vitamins and drugs may increase fetus size and difficult delivery (59%).

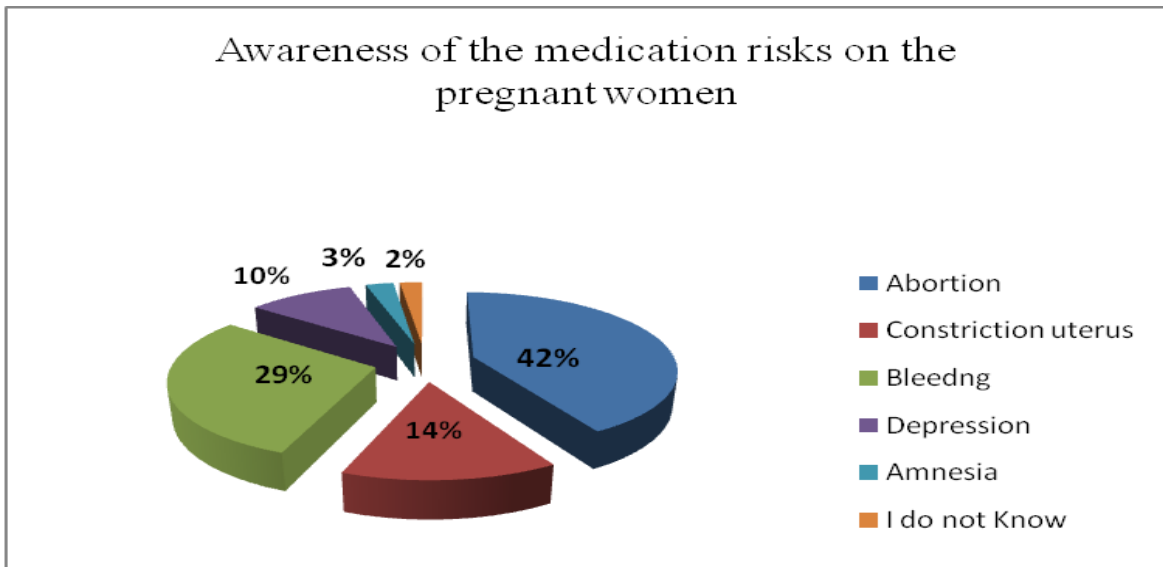
Finally, from our study, we reported that the most common medications used were vitamins (47%), followed by antibiotics (18%) prescribed to pregnant women disorder (65%) among respondents. All drugs used by pregnant women in Health Center - Mukalla Directorate - Yemen were summarized in **figures (5, 6)**.



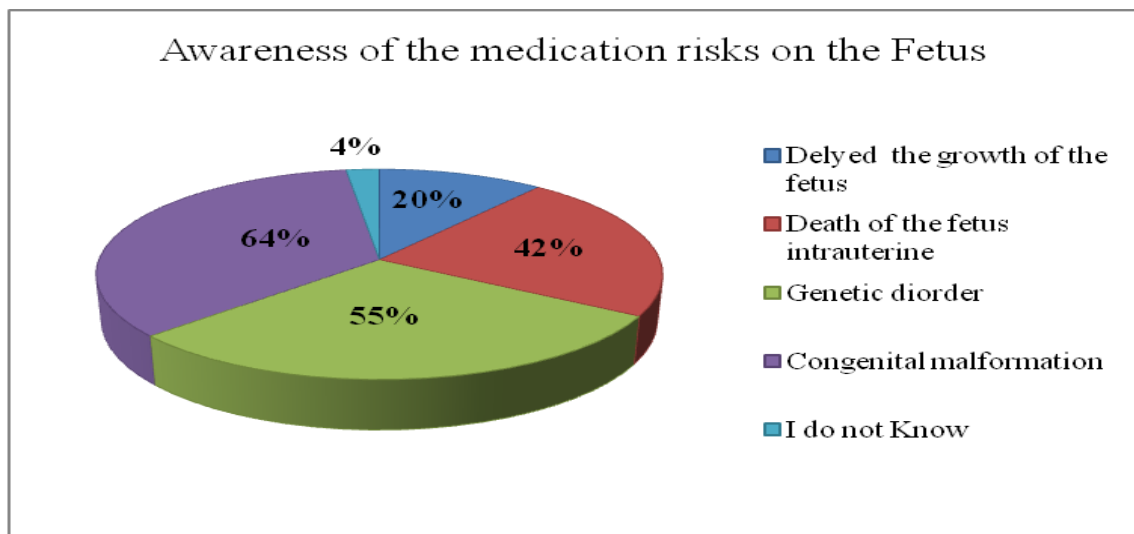
**Figure (1): Information sources of medication during the current pregnancy**

Table (1) : Socio-demographic characteristics of participants.

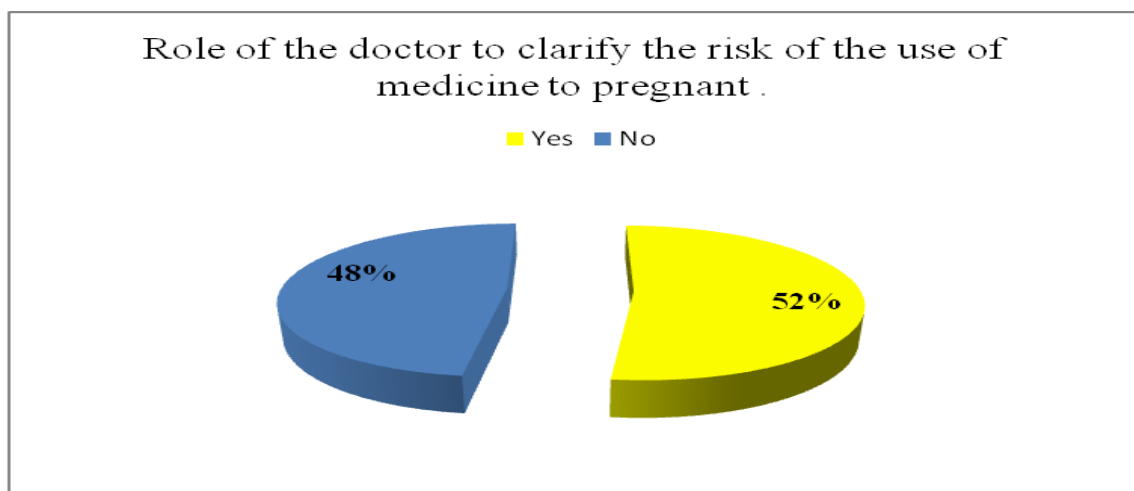
Characteristics	Limits	Total respondents	
		Number of cases	Percentage
<b>1-Personal Data:</b>			
Age Range(Years)	15-24 years	168	42%
	<b>25-35 years</b>	184	<b>46%</b>
	36-45 years	36	9%
	>45 years	12	3%
Education level	No formal education or elementary school	84	21%
	<b>Middle school</b>	144	<b>36%</b>
	High school	112	28%
	College degree or higher	60	15%
Occupation	House-wife	320	<b>80%</b>
	Student	20	5%
	Health-related career employee	4	1%
	Other employees	56	14%
<b>2- Self-perceived health status:</b>			
No. of pregnancy	<b>First One</b>	168	<b>42 %</b>
	Second One	96	24%
	More than 3	136	34%
Medications used during pregnancy	<b>Yes</b>	208	<b>52%</b>
	No	192	48%
Trimester of medication used	First	100	25%
	<b>Second</b>	152	<b>38%</b>
	Third	148	37%
Chronic disease	Yes	24	<b>6%</b>
	No	376	94%
Drugs used in Chronic disease after pregnancy	No	12	<b>3%</b>
	Change the drug of chronic disease	28	7%
	Consulted a doctor	348	87%
Congenital malformation	No	388	97%
	<b>Yes</b>	12	<b>3%</b>



**Figure (2): Awareness of the medication risks on the pregnant women**



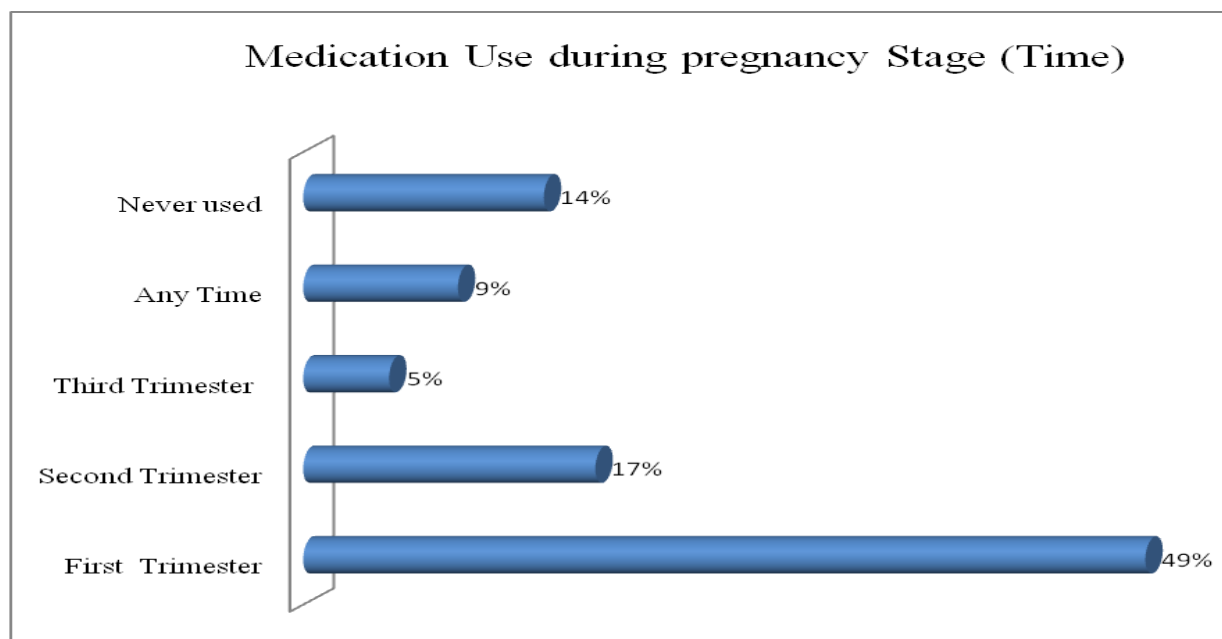
**Figure (3): Awareness of the medication risks on the fetus**



**Figure (4): Role of the doctor to clarify the risk of the use of medicine to pregnant women**

**Table (2):** Pregnant women’s beliefs (Attitude) about medication use during the current pregnancy

Statement	Yes		No		I don’t know	
	.Freq	%	.Freq	%	Freq	%
• Doctors prescribe too many medicines	100	<b>25%</b>	256	64%	44	11%
• All medicines can be harmful to the fetus	44	<b>11%</b>	320	80%	36	<b>9%</b>
• Natural remedies can generally be used by pregnant women	216	<b>54%</b>	140	35%	44	11%
• It is better for the fetus that I use medicines and gets well than to have untreated illness during pregnancy	332	83%	48	<b>12%</b>	20	5%
• Most medicines are addictive	184	<b>46%</b>	120	30%	96	<b>24%</b>
• Natural remedies are safer than medicines	192	<b>48%</b>	152	38%	48	12%
• Drink vitamins and drugs may increase fetus size and difficult delivery	236	<b>59%</b>	100	25%	64	16%



**Figure (5):** Medication Use during Pregnancy Stage (Time)

**Discussion:**

Pregnancy is a special physiological state where medication intake presents a challenge and a concern due to altered drug pharmacokinetics and drug crossing the placenta possibly treatment in pregnancy cannot be totally avoided, since some pregnant women may have chronic pathological conditions that require continuous or interrupted treatment causing harm to the fetus (11). Four hundred respondents were approached for participation. All of them provided complete information. In our study, the majority percentage of the age was between (25-35) years. But according to the level of education, Middle school was the higher percentage, and the majority percentage of Occupations was House-wife. On the Other hand, Heath stated characteristics of the respondents the first pregnancy was the majority percentage of the Number of pregnancies, In our study we found that the prevalence of medications used during the current pregnancy was more than half of pregnant women, and medications were commonly used in the second, and third trimesters, these results disagree of AbdElrahium study results in Sudan,(2013) which was the third trimester most trimester used the drugs (12)We found also that 6% of pregnant women had chronic disease and 3% did not change the drugs of chronic disease after pregnancy. Also, we found 3% of our respondents had congenital malformation (12).

The most common source of updated knowledge about drug information among pregnant women in the University of Medical Center - Mukalla Directorate- Yemen in our study was from doctors and a pharmacist but 5% of the participants reported that they hadn't any source of information about drugs. This result agrees with the study by Noha M. et (2014) in Saudi Arabian reported that the source of updated knowledge about drug information was the doctor. (13). In our study, we noted that the role of the doctor is

to clarify the risk of medication used during pregnancy, but nearly half of the doctors did not explain the risk to them, This result disagrees with a study by Noha M. et (2014) in Saudi Arabian reported that doctors give complete information about the drugs to the pregnant women (13). On the other hand, the majority percentage of the awareness of medication risks on pregnant women and fetuses were abortions on pregnant women and congenital malformation in the fetus but pregnant women did not know any information about the risk of drugs during pregnancy or on the fetus, this result agrees with the study by Monica Navaro, et (2018). Italy's study reported that awareness of medication risks for pregnant women and fetuses was lacking on some points (14).

In our results, we found the negative pregnant beliefs about medications were that the doctors prescribed too many medicines, most medicines are addictive's, natural remedies are safer than medicines, and drinking vitamins and drugs may increase fetus size and difficult delivery, this result agrees with a study by Noha M. et (2014) in Saudi Arabian reported negative beliefs about medications (15).

Finally, from our study, we reported that the most common medications used were vitamins, followed by antibiotics prescribed to pregnant women. All drugs used by pregnant women at the University of Medical Center Mukalla Directorate - Yemen The results of our study agree of the most common medication used was vitamins to study done in Sudan (AbdElrahium D. et), study (2015) (15).

**Conclusions:**

The present study indicates that the prevalence of drugs used during pregnancy was mainly vitamins and antibiotics were used, On the other hand, the doctors didn't play a positive role to clarify the risk of the use of medicine by pregnant women or



fetuses correctly. Although doctors and pharmacists were the main sources of information for pregnant women. Also, we found that the Drink vitamins and drugs may increase fetus size and difficult delivery” was the opinion of most pregnant women. It is therefore an urgent need to make them aware of the risks of drugs to ensure the safe use of medicines for pregnant women and fetuses.

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