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**INDO AMERICAN JOURNAL OF
PHARMACEUTICAL SCIENCES**<http://doi.org/10.5281/zenodo.159275>Available online at: <http://www.iajps.com>**Research Article****AWARENESS ABOUT THE DRUG SAFETY AND
MEDICATION USE AMONG THE PREGNANT WOMEN OF
THE NORTHERN BORDER REGION OF SAUDI ARABIA**Ishraga Eltayeb M. A-Elbasit¹, Abida^{*2}, Ahlam Gwibir Sadah Alanazi³, Dalia Amir
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of Saudi Arabia.⁴Department of Clinical Pharmacy, Faculty of Pharmacy, Northern Border University, Rafha
- 91911, P.O. BOX 840, Kingdom of Saudi Arabia.**Abstract:**

The inappropriate drug use during the pregnancy may cause serious complications. However, the consumption of drugs during the pregnancy cannot be totally avoided because of the existing chronic illness that may require continuous treatment or the development of new medical conditions during pregnancy that require therapeutic intervention. The main objective of this study was to evaluate the awareness about the drug safety and medication use among the pregnant women of the Northern Border Region of the Kingdom of Saudi Arabia. This cross-sectional study was carried out using a pretested and structured questionnaire among the pregnant women (N = 50) of the rural area, near Arar City and Rafha City, of the Northern Border Region of the Kingdom of Saudi Arabia. The data obtained was analyzed using the Statistical Package for Social Sciences (SPSS) version 19. It was surprising to note that neither doctors nor the pharmacists provided full information about the medicine to more than 3/4th of the patients. This type of practice by the doctors and pharmacist may pose pregnancy related problems to the expecting mothers and may lead to serious consequences. There is an urgent need to take remedial actions regarding this issue by the concerned authorities of the Northern Border Region of the Kingdom of Saudi Arabia.

Keywords: Awareness, Safety, Drug, Pregnancy, Northern Border, Saudi Arabia.**Corresponding Author:****Abida,**Department of Pharmaceutical Chemistry,
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INTRODUCTION:

The issue of the awareness about the drug safety and medication use among the pregnant women has become a public health issue after the thalidomide tragedy [1,2]. During pregnancy, the drug intake is of great concern because drug taken during the pregnancy may cross placenta and may produce its teratogenic effects on the foetus [3]. Despite that the drug use during pregnancy may pose a teratogenic risk for the embryo, the consumption of drugs during pregnancy by the pregnant women cannot be totally avoided because of the existing chronic illness that may require continuous treatment or the development of new medical conditions during pregnancy that require therapeutic intervention [4]. 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 supplements [5]. According to one report, about 8% of the pregnant women worldwide need permanent drug treatment for chronic diseases such as diabetes, for acute illnesses such as influenza, or for treating pregnancy complications such as vomiting [3]. According to other reports, more than 50% of the pregnant women take at least one prescription or non-prescription drug during pregnancy their pregnancy [6,7]; over 90% of the pregnant women take three or four medicines at some stage of pregnancy [8]; and about 84% to 99% of the pregnant women use either prescribed or OTC drugs during pregnancy to treat acute or chronic conditions [9].

Many reports at global level about the drug use during the pregnancy have been published that reported inappropriate use of medications during pregnancy [10-18]. Recently, a report has been published in Saudi Arabia addressing similar issues [19]. However, this article was silent about the inclusion of the pregnant women of the Northern Border Region of Saudi Arabia. To the best of our knowledge, there are no data available about the awareness about the drug safety and medication use among the pregnant women of the Northern Border Region of the Kingdom of Saudi Arabia. Therefore, this study was planned with the expectations that it will help us to suggest some measures to be taken by the ministry of health to increase the awareness

about the drug safety and medication use among the pregnant women of this region.

MATERIALS AND METHODS:

This cross-sectional study using a pretested and structured questionnaire was carried out from October 24, 2015 to January 21, 2016 among the pregnant women (N = 50) of the rural area, near Arar City and Rafha City, of the Northern Border Region of the Kingdom of Saudi Arabia. The questionnaire was developed according to the scientific literature and using the similar reports published worldwide [10-19]. The questionnaire included questions related to the socio-demographic characteristics, pregnancy related information, awareness about the drug safety and medication use during pregnancy. The inclusion criteria were that participants should be Saudi, married and pregnant. All the participants had to be between the age of puberty years to 50 years and had to sign a written consent. To avoid double counting of participants, each participant was provided with a unique identification number. The identity of the participants was anonymized through the process of data analysis. The questionnaire was provided to each participant in English and/or Arabic language. The questionnaire was provided to the participants at the place of their choice. Informed consent was obtained from the participants after the study protocol was explained to them. The participants were assured of the anonymity and confidentiality of the information. The data obtained was analyzed using the Statistical Package for Social Sciences (SPSS) version 19.

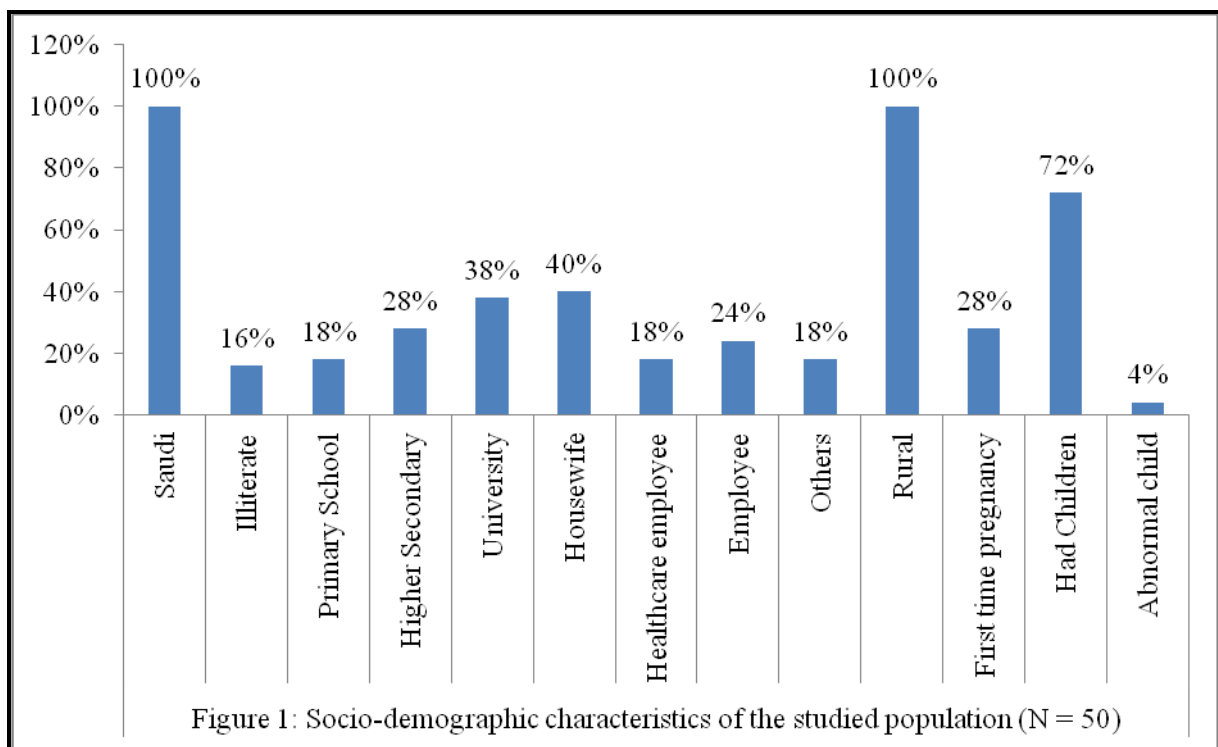
This study was a cross-sectional epidemiological study using a pretested and structured questionnaire and did not involve any risk to the participants. The participants were just asked to fill the questionnaire about their awareness regarding the medication use during pregnancy. Accordingly, this study did not require a review board approval.

RESULTS:

A total of 50 Saudi pregnant women in the rural area, near Arar City and Rafha City, of the Northern Border Region of Saudi Arabia were contacted for this study. The socio-demographic characteristics (N = 50) of these participants are provided in Table 1 and Figure 1.

Table 1: Socio-demographic characteristics of the studied population (N = 50)

Characteristics	Percentage of pregnant Women
Nationality	
Saudi	100%
Non Saudi	-
Education	
Illiterate	16%
Primary School	18%
Higher Secondary School	28%
University	38%
Occupation	
Housewife	40%
Healthcare employee	18%
Employee	24%
Others	18%
Residence	
Rural	100%
Urban	0%
Parity	
First-time pregnant	28%
1-3 previous children	32%
More than 3 previous children	40%
Previous abnormal children	
Yes	4%
No	96%

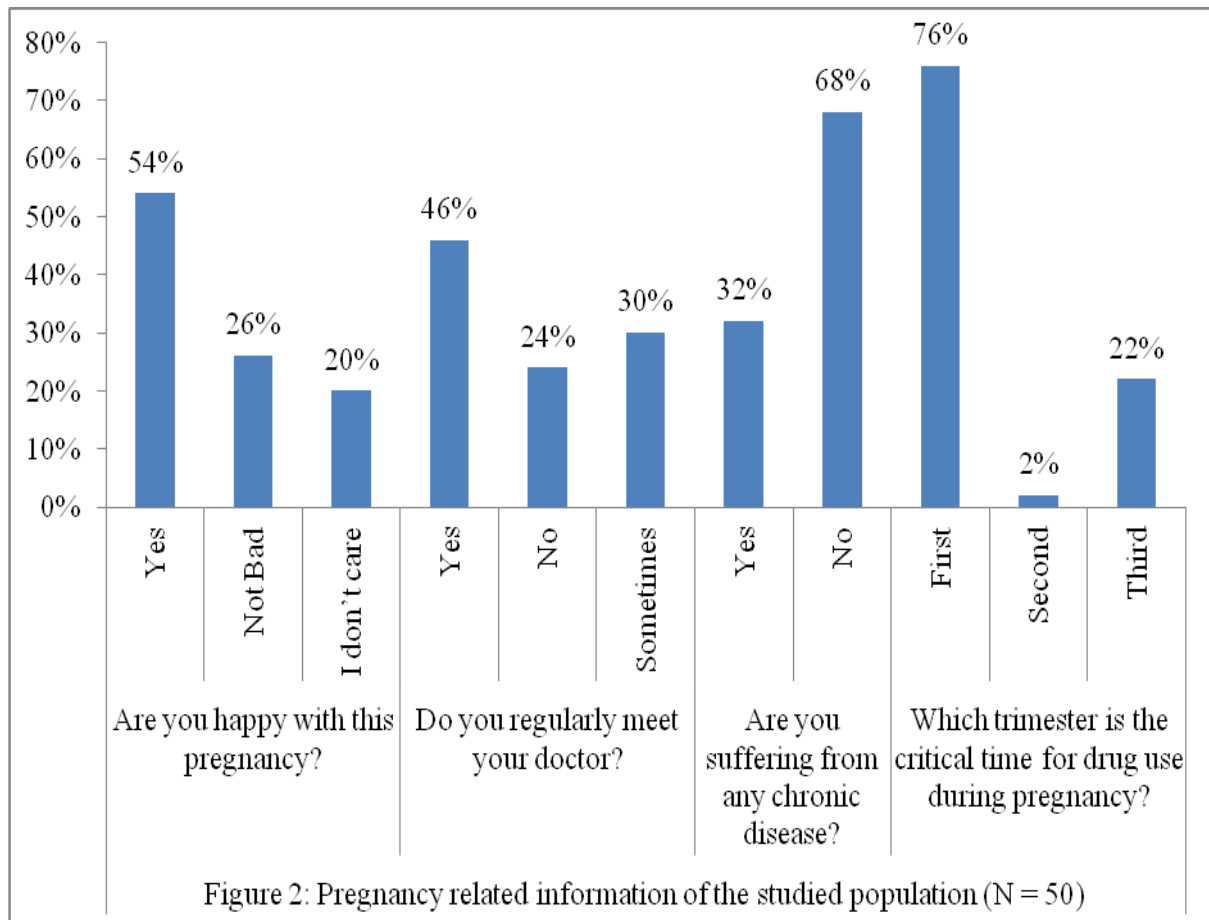
**Figure 1: Socio-demographic characteristics of the studied population (N = 50)**

All the participants were Saudi pregnant females. The age of these participants ranged from 20 years to 45 years. More than 66% (28%+38%) participants were literate; 18% were primary school passout; and 16% were illiterate. The majority of the participants were housewives 40%; 18% were healthcare related employees; 24% were employees; and 18% were others. All the participants, 100%, belonged to rural area. About 72% of the pregnant women had 1 or more children. On the other hand 28% of the women were experiencing first time pregnancy. The majority of the participants, 96%, did not have abnormal children.

The pregnancy related information (N = 50) of these participants are provided in Table 2 and in Figure 2.

Table 2: Pregnancy related information of the studied population (N = 50)

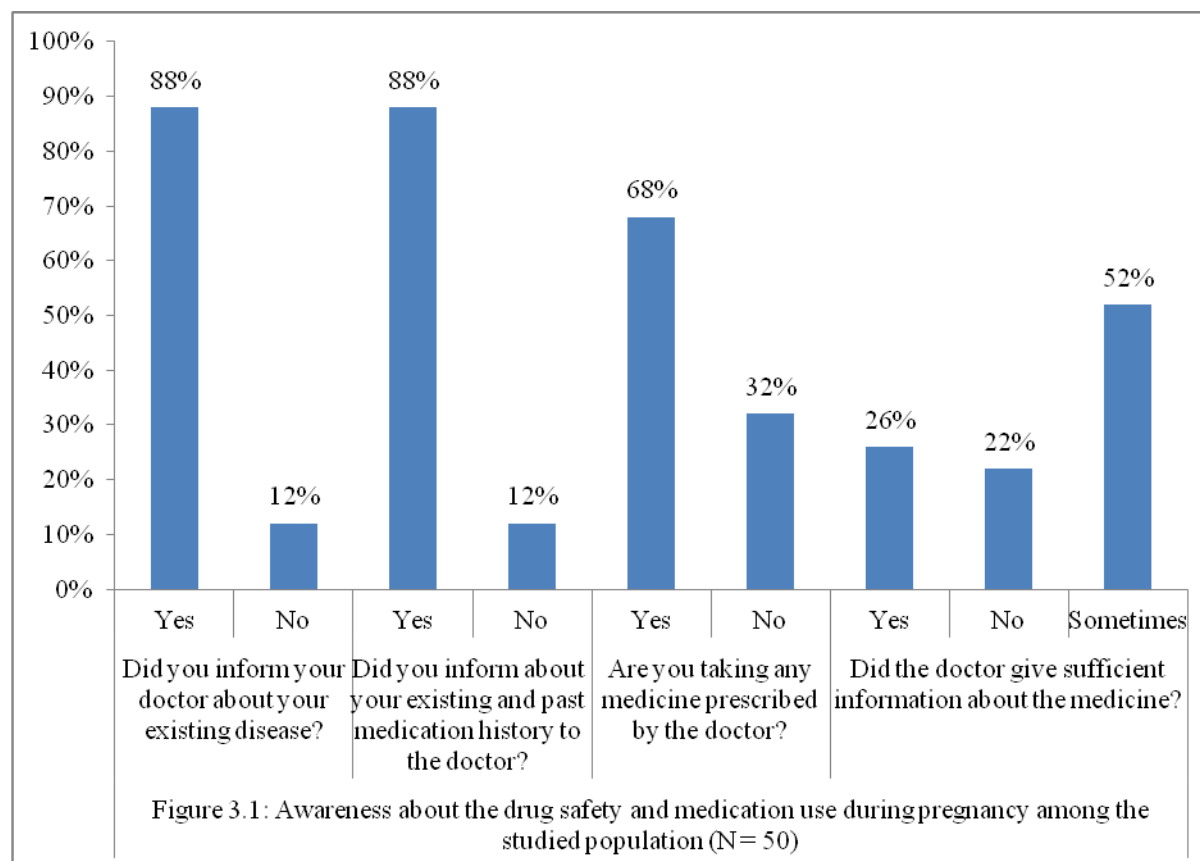
Information	Percentage of pregnant Women
<i>Are you happy with this pregnancy?</i>	
Yes	54%
Not Bad	26%
I don't care	20%
<i>Do you regularly meet your doctor?</i>	
Yes	46%
No	24%
Sometimes	30%
<i>Are you suffering from any chronic disease?</i>	
Yes	32%
No	68%
<i>Which trimester is the critical time for drug use during pregnancy?</i>	
First	76%
Second	2%
Third	22%



More than half of the respondents (54%) were happy with their pregnancy; 26% did not have a bad experience about their pregnancy; and about 20% did not care about their pregnancy. Only 46% of the pregnant women were regularly meeting with their doctor; 30% were not meeting their doctor regularly; and about 24% did not meet any doctor during their pregnancy. About 68% participants were not suffering from any chronic disease. The first trimester was found to be the critical time for drug use during pregnancy in 76% of the respondents. The data related to the awareness about the drug safety and medication use during pregnancy (N = 50) is provided in Table 3 and in Figure 3.1, 3.2 & 3.3.

Table 3: Awareness about the drug safety and medication use during pregnancy among the studied population (N = 50)

Question	Percentage of pregnant Women		
	Yes	No	Sometimes
<i>Did you inform your doctor about your existing disease?</i>	88%	12%	-
<i>Did you inform about your existing and past medication history to the doctor?</i>	88%	12%	-
<i>Are you taking any medicine prescribed by the doctor?</i>	68%	32%	-
<i>Did the doctor give sufficient information about the medicine?</i>	26%	22%	52%
<i>Did you inform the pharmacist about your pregnancy?</i>	60%	14%	26%
<i>Does the pharmacist give sufficient information about the medicine?</i>	12%	50%	38%
<i>Do you have confidence on the pharmacist?</i>	70%	16%	14%
<i>Do you make sure about the medicine leaflet with your medicines?</i>	40%	32%	28%
<i>Do you read the contents of the medicine leaflet of your medicine carefully?</i>	44%	38%	18%
<i>Are you aware about the drugs that should be used during pregnancy?</i>	88%	12%	-
<i>Do you use home remedies (medicinal herbs, minerals, etc.) during pregnancy?</i>	28%	44%	28%
<i>Did you face abortion because of any drug in the past?</i>	16%	84%	-
<i>Do drugs cause birth defects?</i>	46%	12%	42%
Who is the main source of awareness about the drug safety and medication use during pregnancy?			
<i>Doctor</i>	58%		
<i>Pharmacist</i>	20%		
<i>Media</i>	18%		
<i>Others</i>	4%		



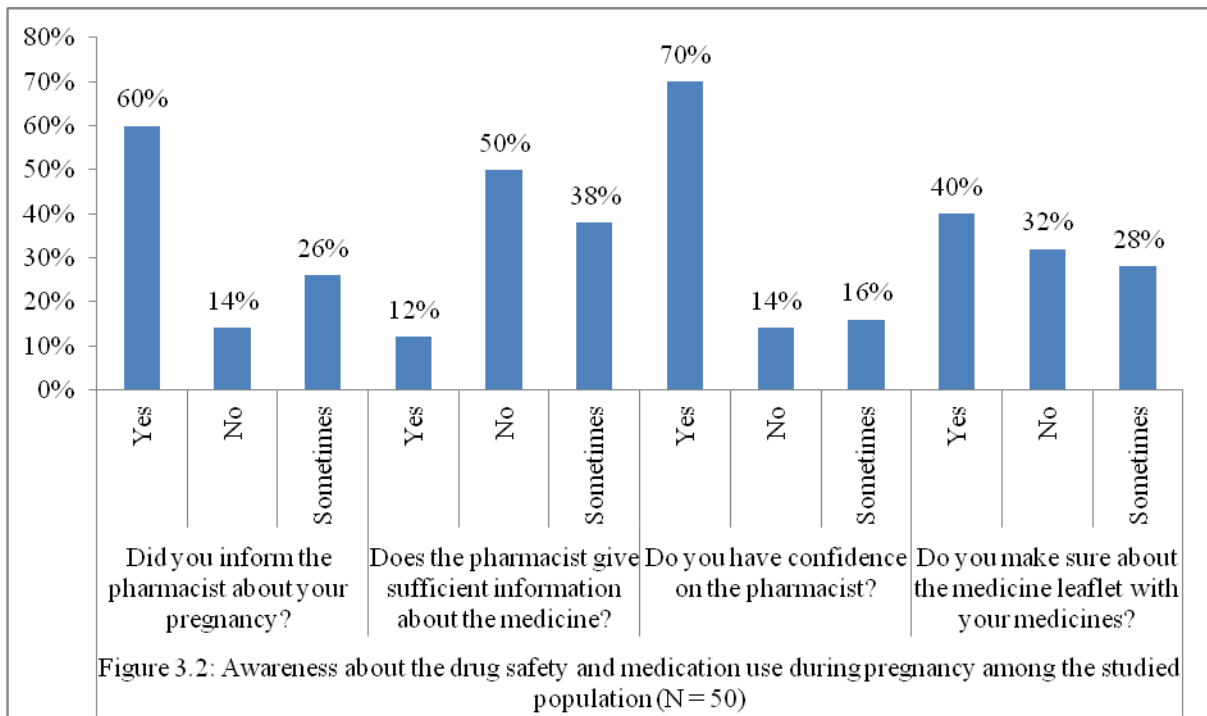


Figure 3.2: Awareness about the drug safety and medication use during pregnancy among the studied population (N = 50)

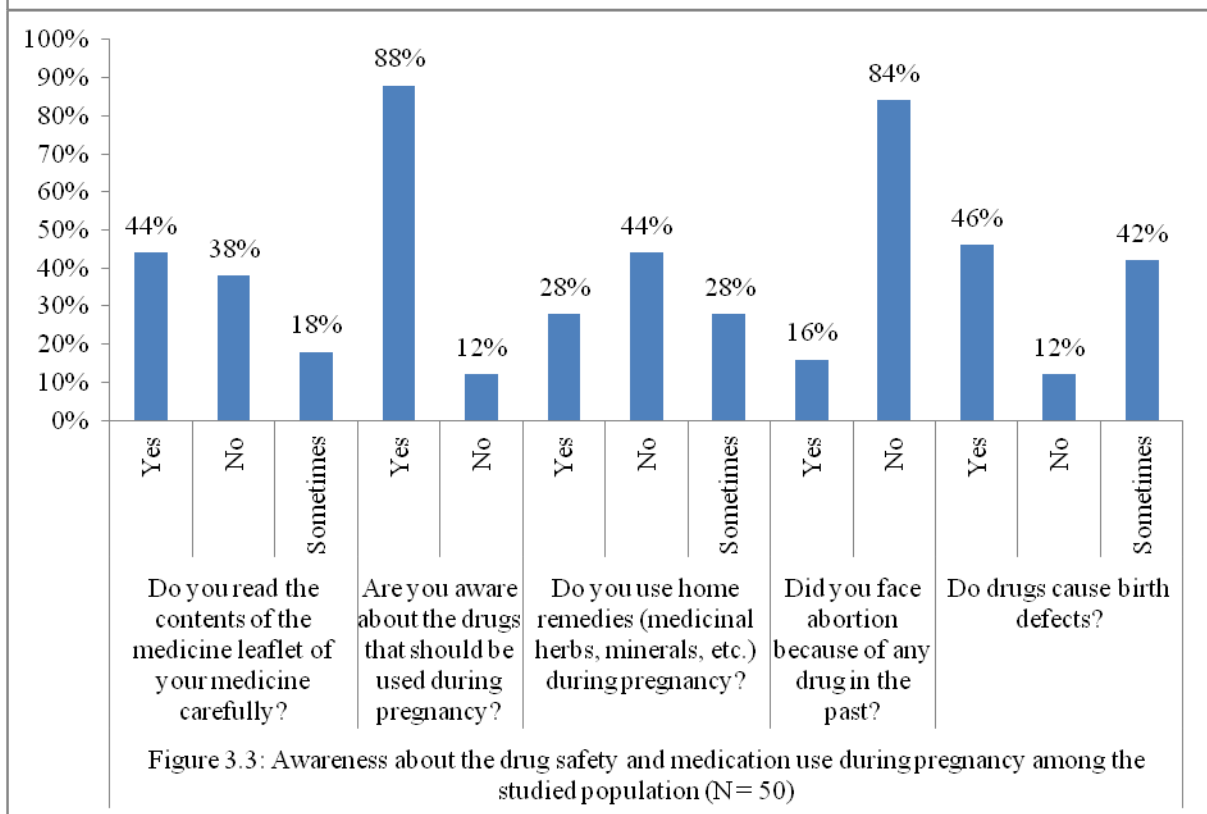
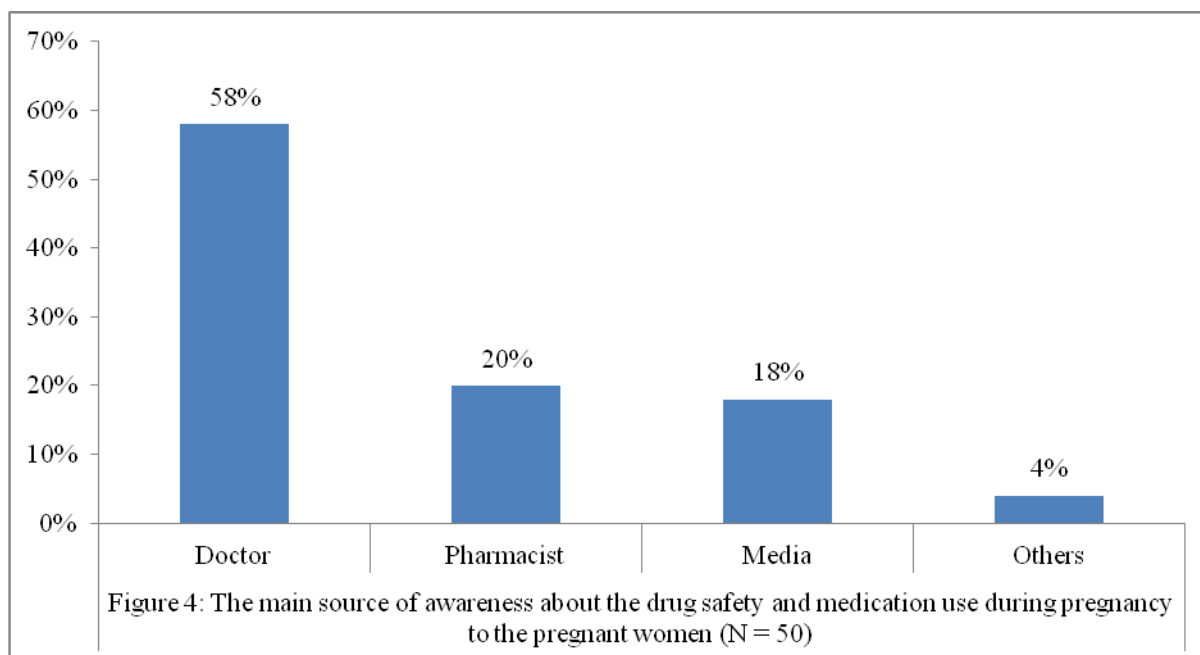


Figure 3.3: Awareness about the drug safety and medication use during pregnancy among the studied population (N = 50)

The data related to the main source of awareness about the drug safety and medication use during pregnancy to the pregnant women (N = 50) is provided in Table 4 and Figure 4.

Table 4: The main source of awareness about the drug safety and medication use during pregnancy of the pregnant women (N = 50)

Question	Percentage of pregnant women			
	Who is the main source of awareness about the drug safety and medication use during pregnancy?	Doctor	Pharmacist	Media
	58%	20%	18%	4%



The data related to the awareness about the drug safety and medication use during pregnancy revealed that about 88% of the participants discussed about their existing disease and medication history with the doctor. About 68% participants were on current medication prescribed by the doctor. However, the doctor provided sufficient information about the medicines to 25% patients only. In pharmacy, about 60% participants informed the pharmacist about their pregnancy. However, the pharmacist provided sufficient information about the medicines to 12% patients only. More than 70% of the respondents stated that they had confidence on the pharmacist. Only about 45% of the participants ensured about the medicine leaflet and read it. The data indicate that about 88% of the participants were about their drugs; 84% did not face abortion problems with their drugs; and more than 46% were aware that drugs can cause birth defects. About 28% women were using home remedies during their pregnancy. Regarding the source of awareness about the drug safety and medication during pregnancy, 58% participants got awareness about their drug from doctors; 20% from the pharmacist; 18% media; and 4% from other sources.

DISCUSSION:

This study has provided a very significant insight about the level of awareness about the drug safety and medication use among the pregnant women of the Northern Border Region of Saudi Arabia. This study has revealed that most of the pregnant women are aware of the importance of their visit to the doctor and pharmacist for the consultation. Interestingly, most of the participants were reluctant or unsure about the use of herbal remedies. This was reflected by low percent of herbal users (28%). Many herbal remedies are

traditionally used for symptoms that occur commonly during pregnancy, such as nausea and vomiting. However, the use of herbal remedies during pregnancy is of concern. Herbal remedies may contain compounds that can lead to miscarriage, premature birth, uterine contractions, or injury to the foetus [20]. Thus, it is important to understand the extent to which herbs are used in pregnancy, the specific products used and the reasons for which they are used [21]. The prescription of appropriate medicine to the pregnant women poses a great challenge to the physician as well as to the pharmacist. The physician and pharmacist must consider the risk-benefit relation for both the mother and the fetus [1,22,23]. This study has also indicated that the main sources of awareness about the drug safety and medication use are doctors, pharmacists, and media. However, it was surprising to note that neither doctors nor the pharmacists provided full information about the medicine to more than 3/4th of the patients. This type of practice by the doctors and pharmacist may pose pregnancy related problems to the expecting mothers and may lead to serious consequences. A Pharmacist is expected to provide his expert advice to the patients regarding the prescribed medicine .e.g. dose, frequency, route of administration, possible side effects, drug-food interaction, drug-drug interaction, patient counselling, etc.. Accordingly, this area needs improvement and remedial actions should be taken by the concerned authority to address this issue in future.

CONCLUSION:

This study has revealed that during pregnancy, the women of the Northern Border Region of Saudi Arabia did not get sufficient information regarding their medicine from doctor or pharmacist. This may

lead to serious consequences for expecting mothers. There is an urgent need to take remedial actions regarding this issue by the concerned authorities of the Northern Border Region.

LIMITATION OF THE STUDY:

The first limitation of this survey was its number of participants. Secondly, the major participation by literate women that might have influenced the analysis in terms of the participant's awareness about their medicine. Thirdly, the major participation of the multiparous women who got knowledge about the drug from their previous experiences. Therefore, the results obtained from this study cannot be generalized to the whole population of pregnant women present in the Northern Border Region of Saudi Arabia.

CONFLICT OF INTEREST:

The authors declare that no conflict of interest is associated with this work.

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