



Pregnant women beliefs and perception about medicines in Tabuk area, Saudi Arabia

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Abstract

Background: Prior studies have investigated the quantity and scope of medication use in pregnant women, but have not explored their beliefs and perception of the risks associated with the use of these medications.

Aim: To investigate women's perceptions of medication use during pregnancy and breastfeeding in Tabuk area, North West Saudi Arabia.

Methods: This study was a cross-sectional survey conducted between January and April 2020, a semi-structured self-report questionnaire was distributed to 615 pregnant women visiting two tertiary care hospitals (King Fahd and King Khalid hospitals) in Tabuk city, KSA. The pregnant women received a semi-structured questionnaire composed of 22 +16-item developed in Arabic language. All analyses were carried out using STATA SE V.11 (Stata Corp, College Station, TX, USA). The responses of pregnant women to the questionnaire were expressed in frequency and percentages.

Results: A study of 615 pregnant women found that most lived in urban areas, completed university education, and were housewives. The majority used at least one class of medication during pregnancy, with 77.6% using vitamins and 13.5% using nausea and vomiting medication. Most believed the first trimester was the critical time to use medication, and 95.9% preferred to avoid all types. Most maintained regular doctor visits and received counseling. More than one-third believed doctors overprescribe medicines, with 40% believing natural remedies are more safe. Despite uncertainty about fetal safety and stopping medication, 75.9% of pregnant women used medicines more carefully.

Conclusion: Pregnant women in Saudi Arabia are consuming a significant amount of medication, but many have a negative perception of it. This negative perception can affect their adherence to medication. To improve health literacy, it is crucial to educate and motivate pregnant women to seek information about their medications from reliable sources like doctors, pharmacists, and other healthcare providers. This will ensure efficient management of pregnancy-related diseases and reduce avoidable hazards.

Keywords: *Pregnant, women, beliefs, perceptions, medications.*

Introduction

Pregnant women experience various symptoms during pregnancy [1]. Some medications are used during pregnancy to treat various symptoms and diseases [1]. Some women with previously diagnosed medical conditions such as asthma, diabetes mellitus, or any autoimmune disease such as systemic lupus should continue the prescribed medications to avoid adverse pregnancy outcomes, including stillbirth, low birth weight, or preeclampsia [2]. Likewise, adherence to the appropriate treatment regimen throughout pregnancy is critical for pregnant women with HIV to reduce the risk of viral transmission to the fetus [3].

Perception of teratogenic risk and maternal decision-making may be influenced by multiple factors, such as maternal emotional state, opinions, experiences, and beliefs of their family and friends [4,5]. There is little research on pregnant women's perceptions of medicine use. However, to our knowledge, these studies only provide scant information about the pregnant population in Saudi Arabia [6-8]. Other studies have indicated that the parity and educational status of pregnant women can influence how pregnant women view the use of medications, but the outcomes are diverse [6,9,10]. For example, a study conducted among Norwegian women showed that higher-educated women were more hesitant to take any medication during pregnancy.

In contrast, less-educated women believed that pharmaceuticals, in general, were hazardous and herbal medicines were safe [9]. However, another study conducted in Sweden showed that education level or parity did not affect attitudes toward medicine use generally during pregnancy and breastfeeding [1]. It also showed that most pregnant women believed that taking medications during pregnancy or while breastfeeding was probably harmful or harmful [1]. Another important health issue is the rise in the use of

herbal medicines. Despite possible maternofetal dangers, many pregnant women still utilize herbal remedies. For example, there was a study conducted in Hail in Saudi Arabia about the use of herbal medicine during pregnancy. The findings of this study indicated a high prevalence of herbal medicine use during pregnancy in the region, most likely influenced by local cultural practices. The majority of participants believed that moderate use of herbal medications would not cause any harm to the mother or the fetus. However, they believed excessive use would result in unfavorable outcomes such as stillbirth, early labor, infant abnormalities, and long-term repercussions on maternal health [11].

Using medication during pregnancy is a concern for most pregnant women, either over the counter or prescribed medications [4]. Understanding these concerns may lead to achieving the best counseling for pregnant women, resulting in better adherence to their medications and preventing negative outcomes [1].

Therefore, this study aimed to investigate women's perceptions of medication use during pregnancy and breastfeeding in Tabuk area, North West Saudi Arabia.

Methods

Study design

The Institutional Review Board, Health Affairs, Tabuk approved this study (reference number TU-077/019/020 plz insert the correct number).

This study was a cross-sectional survey conducted between January and April 2020, a semi-structured self-report questionnaire was distributed to 615 pregnant women visiting two tertiary care hospitals (King Fahd and King Khalid hospitals) in Tabuk city, KSA.

Data collection

The pregnant women received a semi-structured (Appendix I) questionnaire composed of 22 +16-item developed in Arabic language by Zaki et al., 2014. The authors developed the questionnaire through modifying a previously validated survey (Horne et al., 1999; Nordeng et al., 2010a). Pregnant women were asked to answer 22 questions that explore their demographic characteristics (Q1–7), awareness of risk (Q8–Q12), the prescribed medications (Q13–Q16) and sources of drug information (Q17–Q22).

Moreover, their beliefs and perception about medication use in general (statements M1–M7) and during pregnancy (statements S1–S9) were evaluated as described by Horne et al. (1999) and by Nordeng et al., (2010a). Each statement has three potential responses (disagree, uncertain, and agree) with three potential scores from 1 (disagree) to 3 (agree).

Statistical analysis

All analyses were carried out using STATA SE V.11 (Stata Corp, College Station, TX, USA). Standard descriptive analysis was summarized to demonstrate the

sociodemographic characteristics of the patients. The responses of pregnant women to the questionnaire were expressed in frequency and percentages.

Results

The main clinical and demographic characteristics of the study population are presented in Table 1. A total of 615 pregnant women agreed to participate in the study, of whom 47.3% were below the age of 30 years. The majority of participants (92.4%) were living in urban areas, (76.4%) completed a university education and 46% were house-wives. Among the participants, 41 (6.7%) were diabetic, and 41 (6.7%) were hypertensive. More than one-third (34.6%) of participants had more than 3 children (Table 1).

Medication use and sources of medication information

All pregnant women reported that they used at least one class of medication during pregnancy where 447 (77.6%) of them used vitamins and 83 (13.5%) used medication for nausea and vomiting (Figure 1). The majority of participants, 573 (87.3%) believed that the first trimester of pregnancy is the critical time to use medication and 590 (95.9%) preferred to avoid all types medications during pregnancy where possible. The majority of pregnant women 568 (92.4%) maintained regular visits to their doctors and 300 (48.8%) reported they received counseling about medication from their doctors (Figure 2).

Perceptions and beliefs about medications

Table 3 summarizes the beliefs of pregnant women about the general harm related to medication and general prescribing nature of medication by doctors. More than one-third of (M1; 34.8%) participants persuaded that doctors overprescribe medicines . The participants perceived medicines are not harmful by their nature (M2-M5). However, 40% (M3) believed that natural remedies are more save than medicines. It seems that women who experienced two or more previous pregnancies had more perception of the general harm of medicines (Figure 3) and overprescribing of medicines by doctors (Figure 4) than women who had the first experience of pregnancy.

Table 4 summarizes the perception of using medicines during pregnancy. Despite the majority of pregnant women were uncertain about the safety of medicines to the fetus (S1; 65.8%) and whether to stop taking medication during pregnancy (S2; 66.8%), many (75.9%) of pregnant women agreed that they use medicines more carefully during pregnancy (S3). Most (74.6%) women reported they would ask a physician's approval before using herbal medicines during pregnancy (S9).

Table 1: Participants' baseline characteristics

Character	Frequency (%)
Nationality	Count
Saudi	573 (93.2)

No Saudi	42 (6.8)
Age (year)	
20-25	161 (26.2)
26-30	130 (21.1)
31-35	152 (24.7)
36-40	91 (14.8)
>40	81 (13.2)
Residence	
Urban	568 (92.4)
Rural	47 (7.6)
Education	
Elementary	40 (6.5)
Higher school	105 (17.1)
University	470 (76.4)
Occupation	
House wife	283 (46)
Employee	145 (23.6)
Healthcare-related employee	75 (12.2)
Private	112 (18.2)
Number of pregnancy	
One	188 (30.6)
2-3	214 (34.8)
>3	213 (34.6)
Health problems	
Diabetes	41 (6.7)
Hypertension	41 (6.7)
Asthma	11 (1.8)
other	51 (8.3)
No health problem	471 (76.6)
Have abnormal child	
Yes	29 (4.7)
No	586 (95.3)

Table 2: Medication use and sources of medication information

Character	Frequency (%)
What is the critical time for the drug use during pregnancy?	
First trimester	537 (87.3)
Second trimester	43 (7)

Third trimester	35 (5.7)
What are drugs that should be avoided during pregnancy?	
All drugs	590 (95.9)
Some drugs	25 (4.1)
Do you take drugs without prescription during pregnancy?	
Yes	26
No	589
Do you normally read the accompanied leaflet content?	Count
Yes	415 (67.5)
Sometimes	159 (25.8)
No	41 (6.7)
Do you meet your doctor regularly during pregnancy?	
Yes	568 (92.4)
No	47 (7.6)
Did the doctor give you complete information about the prescribed drugs ?	
Yes	300 (48.8)
Sometimes	214 (34.8)
No	101 (16.4)
Did the pharmacist give you complete information about the prescribed drugs ?	
Yes	277 (45.1)
Sometimes	209 (33.9)
No	129 (20.9)

Table 3: General beliefs about using medicines among pregnant women

General harm and over use of medication	Response of pregnant women n (%)			
	Agree	Uncertain	disagree	Mean score
M1 Doctors prescribe too many medicines	214 (34.8)	289 (46.9)	112 (18.2)	2.2
M2 Most medicines are addictives	75 (12.2)	377 (61.3)	163 (26.5)	1.9
M3 Natural remedies are safer than medicines	246 (40)	258 (41.9)	111 (18.1)	2.2
M4 Medicines do more harm than good	205 (33.3)	252 (40.9)	158 (25.7)	1.9
M5 All medicines are poisons	63 (10.2)	414 (67.3)	138 (22.4)	2.1
M6 Doctors place too much trust on medicines	332 (53.9)	219 (33.9)	119 (12)	2.1

M7 If doctor had more time with patients; he would prescribe fewer medicines	173 (28.1)	161 (26.2)	281 (45.7)	1.9
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Table 4: beliefs about medication among pregnant women during pregnancy

Beliefs item	Response of pregnant women n (%)			
	Agree	Uncertain	Disagree	Mean score
S1 All medicines can be harmful to the fetus	79 (12.9)	405 (65.8)	131 (21.3)	1.9
S2 Even if I'm ill and if not pregnant would have taken medicines, I believe it's better for the fetus that I refrain from using medicines during pregnancy	82 (13.3)	411 (66.8)	122 (19.8)	1.9
S3 I have a higher threshold for using medicines when I'm pregnant than when I'm not pregnant	467 (75.9)	106 (17.2)	42 (6.8)	2.7
S4 Thanks to treatment with medicines during pregnancy lives of many unborn children are saved each year	191 (31.1)	236 (38.4)	188 (30.6)	2.0
S5 It is better for the fetus that I use medicines and get well than to have untreated illness during pregnancy	212 (34.5)	243 (39.5)	160 (26)	2.1
S6 Doctors prescribe too many medicines to pregnant women	214 (34.8)	216 (35.1)	185 (30.1)	2.1
S7 Natural remedies can generally be used by pregnant women	89 (14.5)	406 (66)	120 (19.5)	1.9
S8 Pregnant women should preferable(y) use natural remedies during pregnancy	92 (15)	400 (65)	123 (20)	1.9
S9 Pregnant women should not use natural remedies without the advice of doctor	459 (74.6)	106 (17.2)	50 (8.1)	2.7

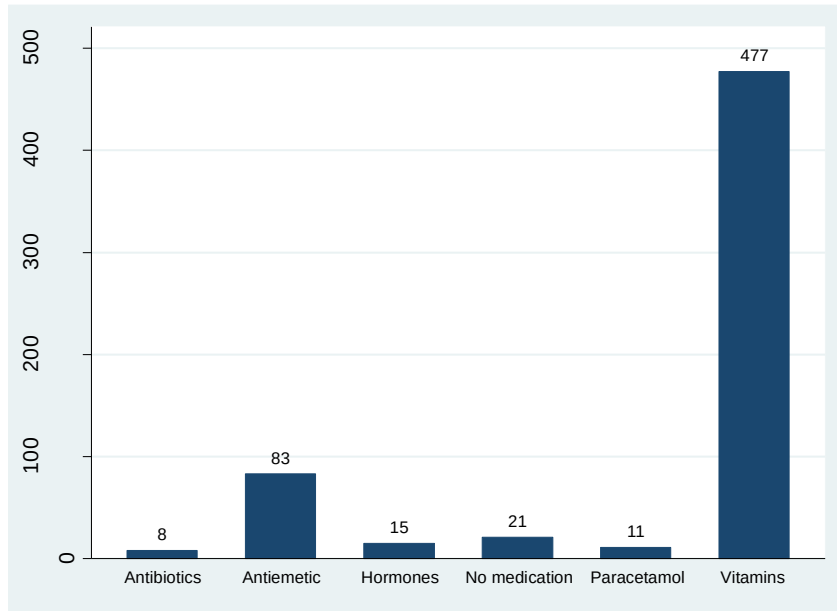


Figure 1: Classes of medications used by pregnant women during pregnancy

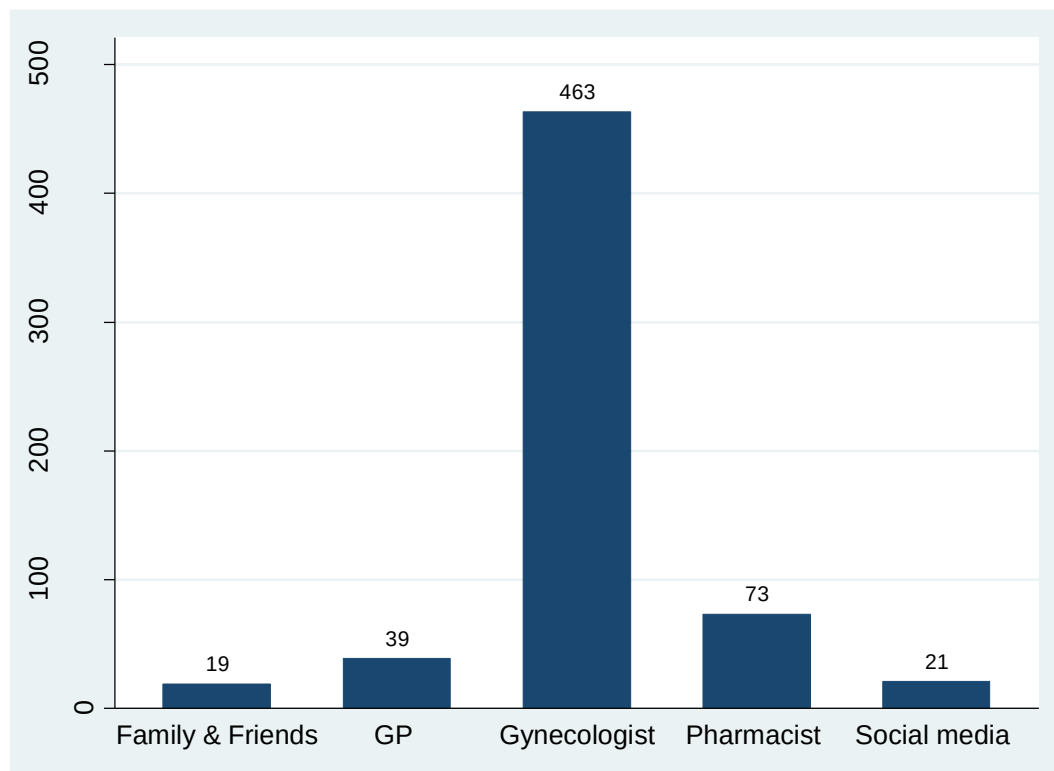


Figure 2: Sources of medication information during pregnancy

Perception of pregnant women about general harm (related to medicines)

Figure 1 illustrates agreement of pregnant women about the general harm that may be caused by medication categorized by the experience of pregnancy. It seems that women who had two or more children perceived medicines are harmful to

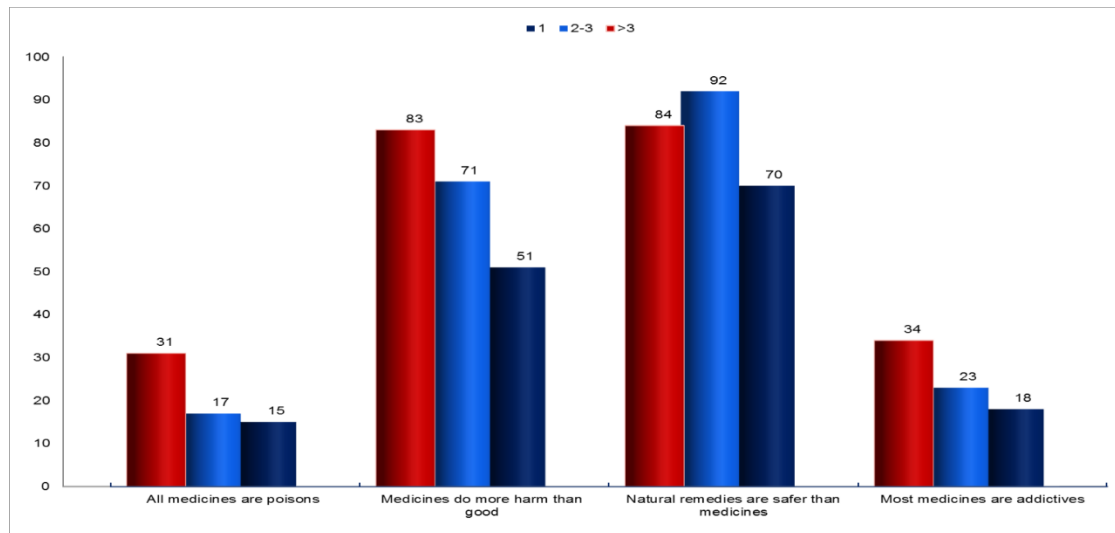


Figure 3: Agreement of pregnant women about the general harm caused by medications

1: first pregnancy 2-3: Two or more pregnancies >3: more than three pregnancies

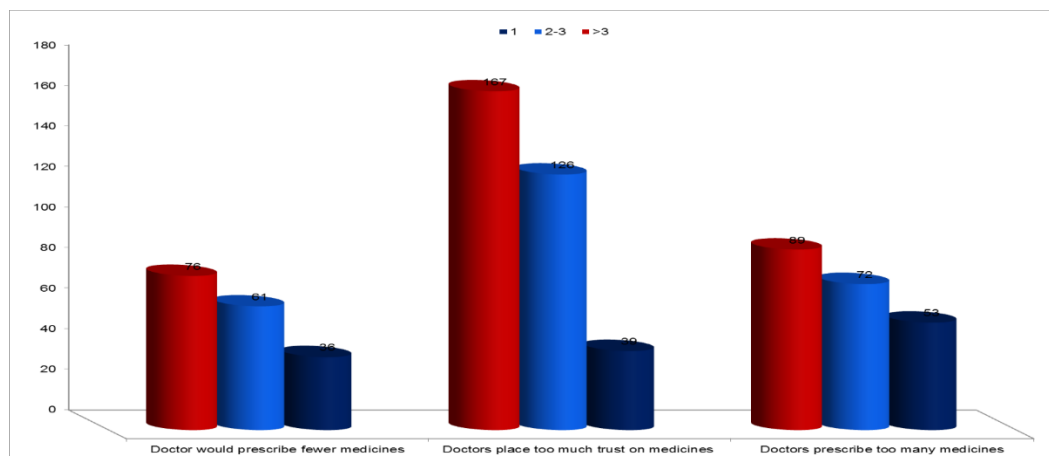


Figure 4: Agreement of pregnant women about the general overprescribing of medicines by doctors

1: first pregnancy 2-3: Two or more pregnancies >3: more than three pregnancies

Discussion:

The worldwide literature has reported on the knowledge, awareness, and attitudes of pregnant women about medicine usage [12, 13]. However, to the best of our knowledge, this is the first research conducted in Saudi Arabia on this topic. The research consisted of 615 pregnant women, with 47.3% of them being under the age of 30 years.

All pregnant women in the present study reported that they used at least one class of medication during pregnancy where 77.6% of them used vitamins and 13.5% used medication for nausea and vomiting. The majority of participants, 87.3% believed that the first trimester of pregnancy is the critical time to use medication and 95.9% preferred to avoid all types medications during pregnancy where possible. The majority of pregnant women 568 (92.4%) maintained regular visits to their doctors and 48.8% reported they received counseling about medication from their doctors. In contrast to our findings, Atmadani et al. (2020) showed that 11.7% of the 333 female participants in their study reported using over-the-counter (OTC) medicine during pregnancy. The OTC medications used consisted of antiemetic drugs (33%), cures for cold and flu symptoms (29%), antipyretic medication (15%), analgesics (13%), and miscellaneous medications (10%). Out of the individuals who treated themselves without medical supervision while pregnant, over 10.3% did so during the first three months of pregnancy [14]. The divergence in attitudes on medicines and the perception of risk among respondents suggests a possible deficiency in understanding the suitability of medications. Additional research is necessary to investigate the risk perceptions of medications and determine the underlying reasons why women perceive certain drugs as unsafe. The findings indicate that women generally see drugs as advantageous, with a smaller proportion expressing concerns about their misuse and potential danger, in comparison to other research conducted on pregnant women [15]. In this research, we did not assess the sociodemographic characteristics linked to women's views and perceptions about medicine use during pregnancy. Nevertheless, a research conducted in Saudi Arabia revealed that individuals with a greater degree of education had more favorable opinions toward the use of drugs during pregnancy [6]. Furthermore, Ceulemans et al. provided evidence that the amount of education significantly influenced the opinions of pregnant women in Belgium [16]. Pregnant women who were housewives or jobless often had unfavorable opinions about the usage of medicines during pregnancy.

34.8% of the respondents stated that physicians administer too many drugs. A research done in Norway found that the majority of pregnant women agreed with the assertion that doctors gave them an excessive amount of drugs, based on the same questionnaire [15]. Our participants saw drugs as inherently non-harmful (M2-M5). However, 40% (M3) held the belief that natural therapies are safer than medications. Women who had two or more prior pregnancies had a greater awareness of the potential dangers of medications and the excessive prescription of drugs by physicians, compared to women who were

experiencing their first pregnancy. According to a research conducted by Alani et al. (2020) in Malaysia, over 50% of pregnant women had unfavorable opinions about taking medicine while pregnant. This may be attributed to their limited knowledge and awareness [17]. There is a difference in views and risk perception among pregnant women in the UK when it comes to medicine, which suggests that they may not be fully aware of the appropriate treatment for common acute diseases [18].

Despite the majority of pregnant women were uncertain about the safety of medicines to the fetus (S1; 65.8%) and whether to stop taking medication during pregnancy (S2; 66.8%), many (75.9%) of pregnant women agreed that they use medicines more carefully during pregnancy (S3). Most (74.6%) women reported they would ask a physician's approval before using herbal medicines during pregnancy (S9). In a comparable manner, Nugraheni et al. (2020) conducted a research that revealed respondents had diminished convictions over their need for drugs. This outcome may have been attributed to the favorable health profile of the pregnant women included in this research. The majority of participants were young and adhered to a regimen of prenatal vitamins and other supplements. Additionally, the prevalence of chronic illnesses among pregnant women was very low [19]. The participants' unfavorable attitudes towards pharmaceuticals may be attributed to their low perception of medication need, since most participants did not have a specified medical condition and mostly took vitamins and supplements. These drugs have minimal side effects. Although certain vitamins and supplements like folic acid, calcium, vitamin D, vitamin C, and iron provide advantages to pregnant women, they are not meant to treat a condition. While it is important to prevent pregnancy problems, such as fetal abnormalities, individuals often view prevention as a less significant intervention compared to treating a disease. As a result, their beliefs about the importance of taking medication were lower than their concerns about the potential negative effects of medication. The concerns in this research may have been heightened due to the participants' increased vigilance towards their health, particularly in relation to their pregnancy and the well-being of the fetus [20].

The present research has offered an understanding of the perspectives and beliefs around the use of medications among pregnant women in Saudi Arabia. Nevertheless, there are various limitations associated with this study. Firstly, the questionnaire used in this research consisted of closed-ended questions, which may have limited the participants' ability to provide detailed explanations for the underlying reasons behind certain outcomes. Secondly, due to the nature of the study being cross-sectional, it is not possible to establish cause-effect relationships between the use, perceptions, beliefs, and socio-demographic and clinical characteristics. Lastly, the findings of this study may not be applicable to other geographical areas, as their generalizability is uncertain. Hence, it is advisable that future study include diverse locations within Saudi Arabia. Furthermore, it is advisable to document the trimester of the participants in future studies.

Conclusion:

An extensive use of medicine among pregnant women was noted; yet, a significant number of women had a negative perspective toward the use of medication. Given that beliefs toward medicine have been shown to impact adherence to medication, it is necessary to conduct an additional investigation to assess this connection specifically during pregnancy. Hence, it is essential to enhance the health literacy of pregnant women in Saudi Arabia in order to guarantee efficient management of pregnancy-related diseases and reduce avoidable hazards. Comprehensive and direct support is necessary to educate and motivate pregnant women to get information about the drugs they use from reliable sources including doctors, pharmacists, and other healthcare providers.

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