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PREVALENCE AND KNOWLEDGE ABOUT OVER THE COUNTER (OTC) MEDICINE USE AMONG PREGNANT WOMEN IN THE ASIR REGION OF SAUDI ARABIA

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ABSTRACT: Self-medication with OTC drugs is observed in many countries and deserves due concern as it may adversely affect maternal and fetal health. This practice may have an association with socio-demographic factors and knowledge about OTC medicine. A descriptive study was done using a questionnaire that collects information on socio-demographic status, prevalence and knowledge of OTC medicine use among pregnant women. The pregnant women visiting government hospitals in the A sir region were randomly selected. The data collected was analyzed by SPSS software version 20. Moderate level of knowledge about OTC medicine was observed in more than half the sample. More than two-third of the sample was found to have used OTC medicine during their pregnancy. High prevalence of OTC medicine use was found among the unemployed and university-educated sample groups. There was significant association between age of the mother and OTC medicine use, while the association with other socio-demographic variables was not significant. The highest prevalence of OTC medicine use was observed in the sample with a high level of knowledge and in the sample with university education, although there is no significant correlation. Panadol and painkillers were the most frequently used OTC medicine.

INTRODUCTION: Medicines are strategic, an important commodity with direct relation to community health and sustainable development. All medications have a number of adverse effects, which could be amplified by their irregular use. Consumers are not aware entirely that the medications, in addition to their pharmacologic benefits, also have adverse effects [1].

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Over-the-counter (OTC) drugs have been widely used in self-medication for many years in the treatment of common pregnancy-related health problems. Pregnancy is a dynamic process in which anatomic and physiological changes occur from fertilization to parturition [2].

Any medications that pregnant women take, including prescription drugs, non-prescription drugs, nutritional supplements, and herbs, can reach the foetus. This emphasizes the fact that every drug used by women during pregnancy may have an effect on their health as well as on the foetal health [3]. A large share of the pregnant population has inadequate knowledge regarding OTC medicines and their use during pregnancy [4].

According to estimates, approximately one-third of pregnant women self-medicate. As in most parts of the world, the use of OTC medication is quite prevalent in the Middle East countries also. A study conducted in Taif region of Saudi Arabia in 2013 has revealed that a large share of the pregnant population use OTC medicine [5]. A study conducted in UAE revealed that more than one-quarter of pregnant women used OTC medication and other herbal supplements during their pregnancy [6].

The prevalence of OTC medicine use in a population may depend on the level of knowledge and various socio-demographic factors [7]. The objectives of the present study were to assess the level of knowledge and prevalence of OTC medicine use among pregnant women in the A sir region of Saudi Arabia. The study will help to plan steps to be undertaken to elicit awareness and enhance the knowledge among pregnant women about the impact of OTC medications might have on their health as well as on the foetus.

MATERIALS AND METHODS:

Study Design: A descriptive study was done in which a pre-validated, self-administered question-naire was distributed to 250 pregnant women attending hospitals in the A sir region of Saudi Arabia. The study was conducted at Khamis Maternity and Children Hospital, Al-Hayat National Hospital and Tadawi hospital. The study was conducted during a 16-week period from October 2018 to January 2019. The inclusion criterion was Saudi national women who were pregnant during the period of study. The exclusion criterion was women of other nationalities. Written informed consent was obtained before participation in the study. The study was approved by the King Khalid University ethical committee.

Data Collection: Data was collected using a questionnaire that contained 18 questions written in the Arabic language about the socio-demographic background, knowledge, and prevalence of use of OTC medication during pregnancy. The questionnaire consisted of 3 parts. Part 1 was aimed at collecting the socio-demographic data of the respondents such as age, education level, employment status, residence, the trimester of pregnancy, previous children born, having children with special needs, and periodic checkup during pregnancy. In part 2, data regarding the pattern of OTC medicine use were collected. The knowledge regarding OTC medicine use was assessed in part 3. In this part, each right response was given 1 point, and the knowledge level was categorized as low (0-2), moderate (3-4), and high (Above 5).

Statistical Design: The collected data was analyzed and tabulated by using SPSS (version 20.0), and Chi-square test was applied to determine the significance. $P < 0.05$ was considered as the cut-off value for statistical significance.

RESULTS AND DISCUSSION: Pregnancy is a special condition where intake of medication is a challenge and major concern as it may harm mother and the foetus [8, 9]. Therapy with medications in pregnant women cannot be completely avoided because some pregnant women may have acute or chronic diseases such as nausea, vomiting, diabetes, asthma, and hypertension where short or long-term therapy is needed [10, 11].

However, self-medication in pregnancy is an unhealthy practice and can have dangerous implications on both mother and the foetus [12]. The present study assessed the level of knowledge of pregnant women about OTC medicine and the prevalence of OTC medicine use among them.

Distribution of Socio-Demographic Characteristics among the Sample: Evaluation of socio-demographic data revealed that the majority of the sample was in the second trimester of pregnancy (50%), unemployed (59.2%), university-educated (79.2%), residents of the city (76.8%) and without children having special needs (94%). It was found that more than half (58.4%) of the sample went to the hospital for their periodic check-up **Table 1**.

Prevalence of OTC Medicine Use among the Sample: The study revealed that a large share of the sample (more than two-third) used OTC medicine during their pregnancy. This was found to be very high when compared to the study conducted in Sharjah in 2017, which reported that 40% of the pregnant women used OTC medicine6.

Another interesting finding of the study was that majority of the users could not pinpoint a specific reason for taking OTC medicine. Panadol and pain killers were the most commonly used (53.5% and

30.0%, respectively). This disagrees with the findings of Raheel *et al.,* 2017 who reported antibiotics to be the most commonly used OTC medicine 13 **Table 2**.

TABLE 1: DISTRIBUTION OF SOCIO-DEMOGRAPHIC CHARACTERISTICS AMONG THE SAMPLE (N=250)

Personal Characteristics	Frequency	%
Age group		
Below 25	52	20.8
26-30	61	24.4
31-35	76	30.4
Above 35	61	24.4
Education		
Primary/secondary school	18	7.2
High school	34	13.6
University or College	198	79.2
Occupation		
Student	16	6.4
Employed	86	34.4
Unemployed	148	59.2
Place of Residence		
City	192	76.8
Village	58	23.2
Stage of pregnancy (Trimester)		
1-3	6	2.4
4-6	125	50
7-9	119	47.6
No. of children		
0	26	10.4
1-2	111	44.4
3-5	100	40
6-9	13	5.2
Have child/children with special needs		
Yes	15	6.0
No	235	94.0
Periodic check-up during pregnancy		
PHC	81	32.4
Hospital	146	58.4
I don't go unless I feel sick	23	9.2

TABLE 2: PREVALENCE OF OTC MEDICINE USE AMONG THE SAMPLE (N=250)

Parameters		Frequency	%
Take medication without doctor's prescription during pregnancy	Yes	173	69.2
	No	77	30.8
Used any of these medicines during pregnancy without doctor's prescription	Diclofenac	18	7.2
	Ibuprofen	5	2.0
	Any pain killer	52	20.8
	Panadol	93	37.2
	Prospan/any cough syrup	5	2.0
	None	77	30.8
Reason for choosing OTC medicines during pregnancy	Distance from clinic	24	9.6
	To treat mild symptoms	47	18.8
	Convenient and cheaper	29	11.6
	Others	150	60.0

Distribution of Knowledge of OTC Medicine among the Sample: The knowledge of pregnant women about various aspects of OTC medicine was assessed in the third part of the questionnaire. 82.4% of the respondents admitted that OTC medicine use is unsafe for pregnant women, and 82.8% were aware that OTC medicine use is harmful to the foetus **Table 3**.

Level of Knowledge of Pregnant Women about OTC Medicine: The level of knowledge about OTC medicine among the study population was

determined from the score obtained for their responses to knowledge-based questions. A moderate level of knowledge was observed in more than half of the respondents (57.6%) **Table 4.**

TABLE 3: KNOWLEDGE ABOUTOTC MEDICINE AMONG THE SAMPLE (N=250)

Parameters		Frequency	%
OTC medications are approved for self-care	Yes	39	15.6
	No	138	55.2
	I have no knowledge	73	29.2
OTC medications can be purchased in pharmacies	Yes	103	41.2
	No	125	50.0
	I have no knowledge	22	8.8
OTC medications are safe for pregnant women	Yes	23	9.2
	No	206	82.4
	I have no knowledge	21	8.4
At what stage of pregnancy, the use of OTC medications are most harmful	First trimester (1^{st} to 12^{th} week of pregnancy)	193	77.2
	Second trimester (13^{th} to 27^{th} week of pregnancy)	14	5.6
	Third trimester (28^{th} to 40^{th} week of pregnancy)	6	2.4
	I have no knowledge	37	14.8
OTC medicines can affect the foetus during pregnancy	Yes	207	82.8
	No	8	3.2
	I have no knowledge	35	14.0
Disability in a child may be as a result of the use of OTC medications during pregnancy	Yes	170	68.0
	No	8	3.2
	I have no knowledge	72	28.8
OTC medications are dangerous for the baby in future	Yes	152	60.8
	No	12	4.8
	I have no knowledge	86	34.4

TABLE 4: LEVEL OF KNOWLEDGE OF PREGNANT WOMEN ABOUT OTC MEDICINE (N=250)

%	Frequency	Level of knowledge
24.4%	61	High
57.6%	144	Moderate
18.0%	45	Low

Association between Level of Knowledge and Prevalence of OTC Medicine Use: Association between knowledge level of the sample and prevalence of OTC medicine use was studied. The highest prevalence was observed in the sample having a high level of knowledge, although there was no significant association **Table 5**.

This is in agreement with the findings of Raheel *et al.,* 201713 who reported that the knowledge level of the respondents about OTC medicine did not have an association with the prevalence of OTC medicine use.

TABLE 5: ASSOCIATION BETWEEN LEVEL OF KNOWLEDGE AND PREVALENCE OF OTC MEDICINE USE

Level of knowledge	Used OTC medicine in pregnancy		Total	Chi-square test (X^2)	p-value
	Yes	No			
High	47 (77%)	14 (23%)	61		
Moderate	93 (64.6%)	51 (35.4%)	144		
Low	33 (73.3%)	12 (26.7%)	45		
Total	173 (69.2%)	77 (30.8%)	250	3.564	0.168

Association between OTC Medicine use and Socio-Demographic Factors: Association between OTC medicine use and various socio-demographic characteristics of the sample was studied. OTC medicine use was found to be most prevalent in the older sample *i.e.,* of age more than 35 and was least in the age group [31, 35].

There was a significant association between age of the mother and OTC medicine use **Table 6**. This finding is in agreement with a study conducted in Europe, which revealed that older women were more likely to use OTC medicine [14]. However, this was in contrast to the finding of a study conducted in Riyadh, which reported that age had no

significant association with OTC medicine use [13]. Surprisingly, the prevalence of OTC medicine use was more in the sample having university education and was found to decrease with a decrease in education level, the least being found in the sample having only primary or secondary education, although there was no significant correlation **Table 6**. This finding agrees with Raheel *et al.*, 2017 who reported that the education level of the respondents did not have an association with the OTC medicine use [13]. Similarly, OTC medicine use was found to be more in the sample who were unemployed and those who were residing in the village **Table 6**. However, these findings were not statistically significant.

TABLE 6: ASSOCIATION BETWEEN SOCIO-DEMOGRAPHIC DATA AND PREVALENCE OF OTC MEDICINE USE

Use of OTC Medicine In Pregnancy	Socio-Demographic Variables				P-Value	Chi-Square Test (X^2)
Age						
	Age above 35	Age 31-35	Age 26-30	Age below 25		
Yes	76.9%	65.6%	51.3%	88.5%	23.925	0 .000
No	23.1%	34.4%	48.7%	11.5%		
Education Level						
	Primary/ secondary	High school	University/college			
Yes	52.9%	64.7%	71.4%		2.865	0.239
No	47.1%	35.3%	28.6%			
Employment Status						
	Employed	Student	Unemployed			
Yes	4.8%	24%	40.4%		0.329	0.848
No	1.6%	10.4%	18.8%			
Place of Residence						
	Urban		Rural			
Yes	67.7%		74.1%		0.864	0.353
No	32.3%		25.9%			

CONCLUSION: The reported 69% of pregnant women in Saudi Arabia using OTC medications during pregnancy is a very high share and deserves due attention. The fact that a high level of knowledge and education has not helped pregnant women to abstain from OTC medicine adds up to this concern.

Further research is required to identify the reason why knowledge and education have not translated to healthy practice regarding OTC medicine use in pregnancy.

The findings of this study also recommend that steps should be undertaken in the health care sector to restrict the use of OTC medicine during pregnancy among women in the Asir region of Saudi Arabia.

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