

Drug use Among Pregnant Females Attending a Rural Family Health Unit- Dakahlia Governorate, Egypt

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Abstract:

Background: Drug use during pregnancy is prevalent, with 44–99% of women being prescribed medication during pregnancy. The use of medication in pregnancy is often necessary for the treatment of acute and chronic illness. **Objectives:** The aim of this study was to assess the frequency of medication use (prescribed & non prescribed) among pregnant ladies that attending rural health unit in Mansoura district, Dakahlia Governorate. **Methods:** A cross-sectional study was conducted on 350 pregnant ladies that attending the rural family health unit, Mansoura district, Dakahlia Governorate during the period from 1st of January to December 2017. The studied pregnant females were subjected to structured questionnaire to collect data regarding socio-demographic criteria, obstetric history, medical history and history of drug use during pregnancy. **Results:** The study revealed that the frequency of medication use during pregnancy due to acute and chronic illness was (15% and 18%) respectively. The common supplement intake during pregnancy were iron and calcium (96.2%, 96.9%) respectively. About (22%) of the studied pregnant ladies received medication without a doctor's prescription. About (92%) of common medication used among pregnant ladies were safe (category B) according to FDA classification of drug. **Conclusion:** Frequency of medication use for acute and chronic illnesses among pregnant ladies were (15%) and (18%) respectively, indicating rational use of drugs among the studied group and (92%) of the medication used among the studied pregnant ladies were safe (category B) according to FDA classification of drugs.

Keywords: Drug use, self medication, supplement, and pregnant ladies.

Introduction: The use of medication in pregnancy is often necessary for the treatment of acute or chronic illnesses. Poor management of maternal diseases can have a negative effect on both the health of the mother and the fetus.⁽¹⁾ About 8% of pregnant females worldwide need permanent drug treatment; for chronic diseases such as: diabetes, for acute illnesses such as influenza, or for treating pregnancy associated symptoms such as vomiting.⁽²⁾ The prescription of

medications during pregnancy presents a great challenge to the physicians who must consider the risk benefit relation for both the mother and the fetus.⁽³⁾

Drug use is an uncommon cause of birth defects, but certain medications can increase the likelihood of developing a birth defect.⁽⁴⁾ Different studies have shown that most pregnant ladies use either prescribed or over the counter (OTC) drugs and herbal supplements.⁽⁵⁾ A physician caring for a pregnant patient who requires

medication should take care in choosing dosages and types of drugs that maximize effectiveness while minimizing fetal risk.⁽⁶⁾

The majority of pregnant ladies use medication during pregnancy, despite increasing availability of information about teratogenic risks, medication use during pregnancy still causes uncertainty and concern among pregnant ladies and their health care providers.⁽⁷⁾ To guide safe drug use during pregnancy, U.S.A Food and drug administration (FDA) classified drugs into the following major categories; A, B, C, D, and X with categories D and X indicating evidence of risk in pregnancy.^(8,9)

Drug utilization research (DUR) studies provide insights into aspects of drug use and drug prescribing.^(10,11)

These studies provide important indicators of which drugs are most commonly used by pregnant ladies, for which conditions, and whether this use might be problematic for mothers and infants. By identifying frequently used medicines with unknown risks, priorities could be established for epidemiological research.⁽¹²⁾ The aim of the study was to assess the frequency of medication (prescribed & non

prescribed) drugs used among pregnant ladies attending a rural family health unit in Mansoura district, Dakhalia Governorate, Egypt.

Methods: This study was a descriptive cross sectional study conducted in Shobrahour rural family health unit in Mansoura district, Dakhalia Governorate, Egypt. The study included all pregnant females aged from 16-40 years old attended the selected FHU for antenatal care during the period of data collection from 1st of January to 1st of April 2017, the sample size was calculated used Raosoft online sample size calculator based on the size of studying population (pregnant ladies registered in the selected primary health care unit) and an assumed prevalence of medication use during pregnancy (50%) with relative error of 5% at level of significance of 95%. A sample of (340) females was required to be included in the study and was increased to (350) to avoid data loss. The data were collected by direct interview with pregnant ladies one day per week from 9 am to 2 pm till completing the required sample.

Data was collected from participants using a structured questionnaire, which included the following parts:

- Socio-demographic and economic data (e.g., age, education, occupation, and the socioeconomic level based on Fahmy et al, 2015 scoring system of families).
- Obstetric history of the participants, which includes questions on both current and past obstetric history.
- (c)Medical history: To explore the reasons of drug administration during pregnancy either for acute or chronic condition, identify the type of the drug used and duration of administration. For example: intake of vitamins, pain killer, aspirin, drugs for heartburn and other pregnancy symptoms). Also to explore history of self-medication during pregnancy without medical consultation.

Written consent was taken from each participant and the study was approved by the ethics committee in the Faculty of Medicine, Menoufia University. Statistical presentation and analysis of the present study was conducted by Statistical package of Social Science (SPSS) version 20 (SPSS Inc, Chicago, Illinois, USA). Qualitative data were expressed as number and percentage and analyzed applying the Chi-square test.

Results: The present study showed that 15% and 18% of the studied pregnant ladies used medication for acute illness and chronic illness respectively (figure

1&2). The current study showed that there was a significant difference between participants in different pregnancy trimesters regarding drug intake as iron and calcium supplements was frequently used during 3rd trimester (96.2%, 96.9%) respectively while folic acid (60%) was frequently used during 1st trimester. Antiemetic drugs were frequently used during 1st trimester (57.1%). Also, progesterone and aspirin (54.3%, 25.7%) were frequently used during the 1st trimester (Table 1). About (92) % of the most common medication used among the studied pregnant ladies, according to FDA classification of drugs were safe (category B) during three pregnancy trimesters (figure 4).

This study showed that 22% of the studied pregnant ladies received medication without a doctor's prescription (self-medication) (figure 3). As regards the use of over the counter medication (OTC), analgesics were most frequently used among self-medication group (Table 2).

Discussion: In the current study, the pregnant ladies used medication for chronic illness about (18%), this is similar to the results of Norgard et al, (13) study in Denmark showing that the prevalence of maternal chronic disease

during pregnancy has increased fourfold, reaching 15.76% in 2013. The results of the current study show that the common supplements utilized during pregnancy among the studied participants were e.g. iron and calcium (91.1%, 91.4%). This is similar to the result obtained by Picciano et al, ⁽¹⁴⁾ Study, which declared that (97%) of women in the USA took supplements during pregnancy.

This study reported that the most common supplement utilized are iron & calcium supplements which were more frequently used in 2nd and 3rd trimester (96.2%, 96.9%) respectively. This is similar to the result obtained by Reddy et al, ⁽¹⁵⁾ in an Indian study who reported that iron was prescribed only to (2.8%) women in the 1st trimester (39.3%) women in the 2nd trimester and (50%) women in the 3rd trimester. This study reported that folic acid was (60%) frequently used during 1st trimester. This is similar to the result obtained in China reported by Xing et al, ⁽¹⁶⁾ who found that folic acid was more common (67.7%) used in the 1st trimester. In the current study, the common non-supplemental drug utilized during pregnancy were GIT drugs e.g., antiemetic and antacid (31.1%, 9.1%)

respectively, followed by antibiotics and analgesics (27.4%, 24.6%) respectively.

This result has come in agreement with Law et al, ⁽¹⁷⁾ who reported that the antiemetics, was the most prescribed drug in their study and in Rohra et al, ⁽¹⁸⁾ who found the most commonly prescribed drugs to pregnant ladies were antiemetics followed by analgesic, anti-microbial and antacids. It is attributed to that; headache and gastritis are the common physiologic problems during pregnancy. This study reported that antiemetics drugs were commonly used during 1st trimester (57.1%) This is similar to the result of Vanessa et al, ⁽¹⁹⁾ who found that antiemetics were most commonly prescribed during the first trimester to treat hyperemesis gravidarum or morning sickness.

In the current study, the studied pregnant ladies who received medication without physician's prescription were about (22%). This is similar to the result of Bercaw et al, ⁽²⁰⁾ which illustrates that (23%) of pregnant ladies received medication in the United States of America without physician's prescription. In the current study shows that The US-FDA pregnancy risk classification system

was used to evaluate the risk levels of drugs prescribed during pregnancy.

The majority of prescribed drugs in the present study were safe, (92.9%) of the medication used by the studied women were from category B, followed by (88.3%) category A. No woman was prescribed category X drug. Our study showed lower percentages of prescription of categories D and C including, these two categories are always avoided because they are known to be teratogenic. This is inconsistent with Belay et al, ⁽²¹⁾ who found that about (27%) of drugs prescribed were FDA Category B, followed by category C and category A and category X was never prescribed during any trimester.

In the current study, analgesics were the most common drugs (OTC medications) used from our study participant about (16.9%) due to most common illnesses for which these medications were used in our study were headache and backache. This is inconsistent with Nordeng et al, ⁽²²⁾ who found that the commonly used OTC medications are analgesics, antipyretics during pregnancy in (5%) women,

Conclusions: Frequency of medication use for acute and chronic illnesses among the studied pregnant ladies were

(15%) and (18%) respectively indicating rational use of drugs among the studied group. The majority of women received supplements during pregnancy that play a pivotal role in the prevention of maternal and child mortality and morbidity. About (92.9%) of the medication used among the studied pregnant ladies were safe (category B) according to FDA classification of drugs. Prescribers should ensure that optimal medications are used when treating women of childbearing potential with chronic medical disorders.

Conflict of interest: There was no conflict of interest and there were no funding agencies

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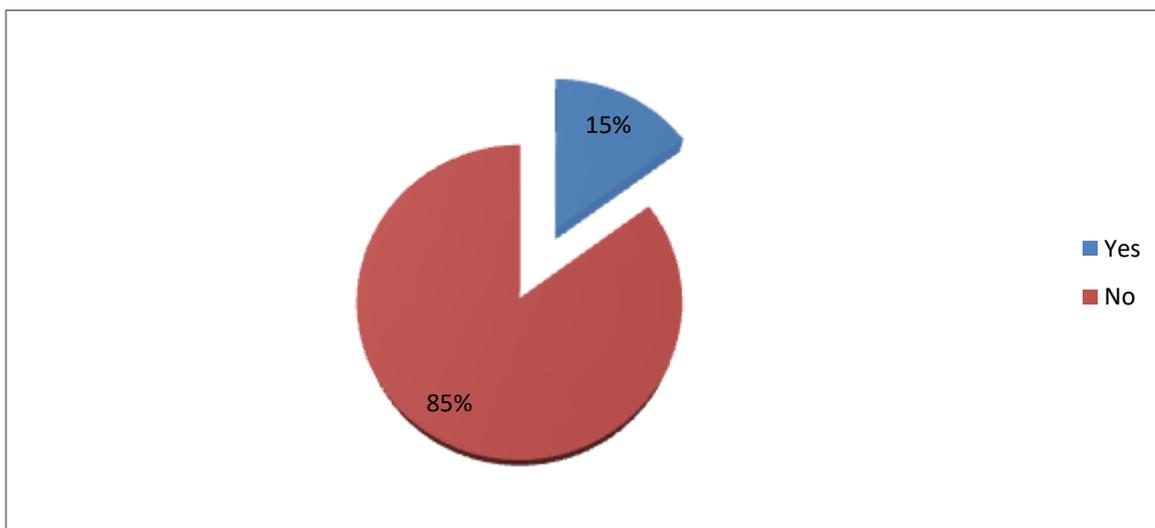


Fig (1): Frequency of medication use during pregnancy due to acute illness

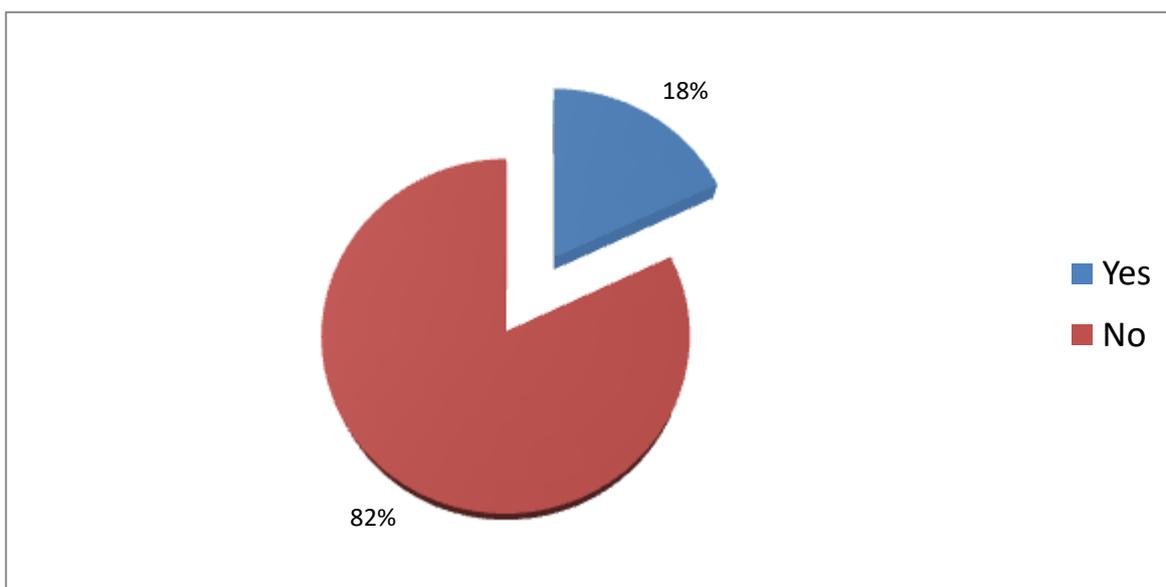


Fig (2): Frequency of medication use during pregnancy due to chronic illness

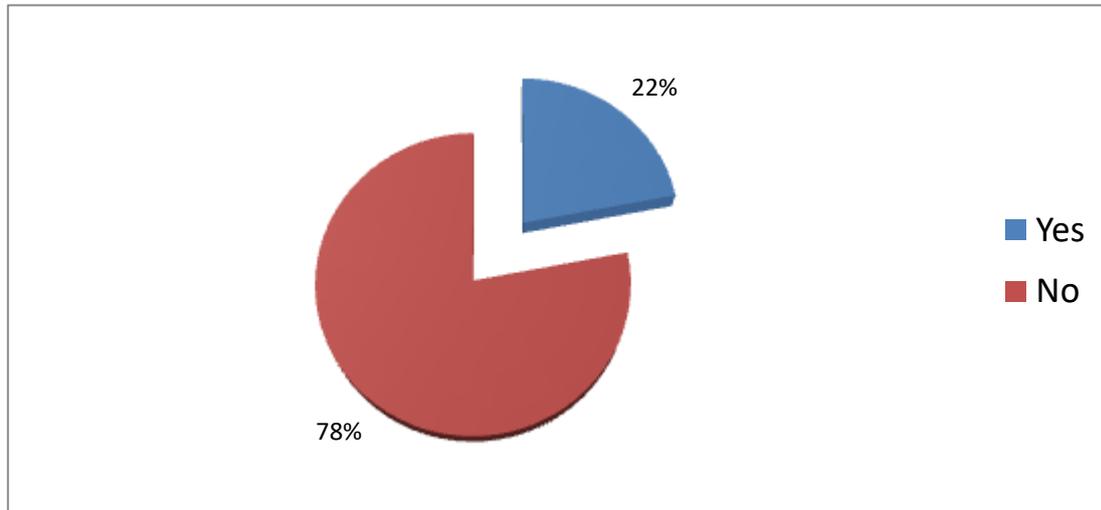


Fig (3): Frequency of Self-medication (non prescribed) during pregnancy

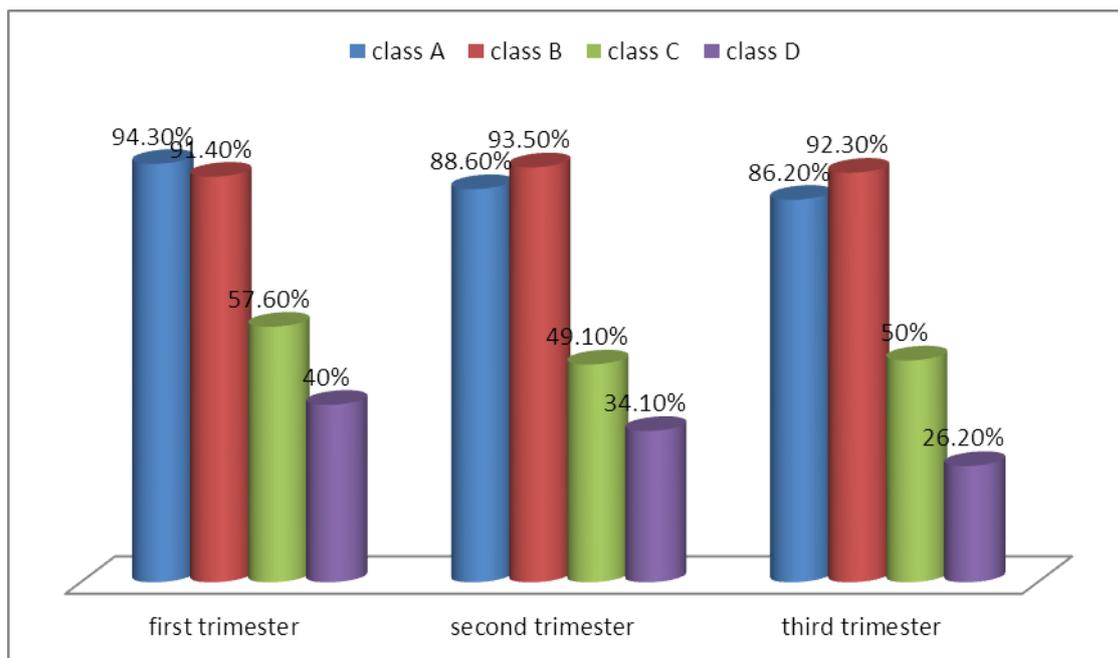


Fig (4): Medications (prescribed and non prescribed) used by pregnant woman according to FDA classification of drugs during three pregnancy trimesters

Category (A): Adequate and well-controlled studies have failed to demonstrate a risk to the fetus in the first trimester of pregnancy (and there is no evidence of risk in later trimesters).

Category (B): Animal reproduction studies have failed to demonstrate a risk to the fetus and there are no adequate and well-controlled studies in pregnant women.

Category (C): Animal reproduction studies have shown an adverse effect on the fetus and there are no adequate and well-controlled studies in humans, but potential benefits may warrant use of the drug in pregnant women despite potential risks.

Category (D): There is positive evidence of human fetal risk based on adverse reaction data from investigational or marketing experience or studies in humans, but potential benefits may warrant use of the drug in pregnant women despite potential risks.

Table (1): Frequency of prescribed medication use during pregnancy according to pregnancy trimester

Item	1 st trimester		2 nd trimester		3 rd trimester		Total		X2	P value
	No (35)	%	No (185)	%	No (130)	%	No (350)	%		
Supplement:										
▪ Vitamins	12	34.2	51	27.6	34	26.2	97	27.7	0.9	0.6
▪ Iron	16	45.7	178	96.2	125	96.2	319	91.1	99.4	<0.001
▪ Calcium	16	45.7	178	96.2	126	96.9	320	91.4	103.8	<0.001
▪ Folic acid	21	60.0	38	20.5	34	26.2	93	26.6	23.5	<0.001
Gastrointestinal tract Drugs:										
▪ Antiemetics	20	57.1	51	27.6	38	29.2	109	31.1	12.4	0.002
▪ Antacid	8	22.9	31	16.8	28	21.5	67	19.1	1.5	0.5
▪ Antispasmodics	10	28.6	36	19.5	29	22.3	75	21.4	1.5	0.5
▪ Laxatives	2	5.7	11	5.9	12	9.2	25	7.1	1.4	0.5
Respiratory Tract Drugs:										
▪ Bronchodilators	0	0.0	11	5.9	14	10.8	25	7.1	5.7	0.06
▪ Cough medication	1	2.9	22	11.9	16	12.3	39	11.1	2.7	0.3
▪ Antihistamines	2	5.7	26	14.1	16	12.3	44	12.6	1.9	0.4
Antimicrobial Drugs:										
▪ Antibiotics	6	17.1	52	28.1	38	29.2	96	27.4	2.1	0.3
▪ Antifungal	0	0.0	9	4.9	10	7.7	19	5.4	3.4	0.2
▪ Metronidazole	2	5.7	11	5.9	11	8.5	24	6.9	0.8	0.7
Others:										
▪ Progesterone	19	54.3	39	21.1	25	19.2	83	23.7	20.2	<0.001
▪ Analgesics	6	17.1	48	25.9	32	24.6	86	24.6	1.2	0.5
▪ Antipyretics	5	14.3	20	10.8	21	16.2	46	13.1	1.9	0.4
▪ Aspirin	9	25.7	18	9.7	7	5.4	34	9.7	12.9	0.002

Table (2): Relationship between pattern of drug use and common over the counter medication (OTC) drugs used by the studied pregnant women

Item	Prescribed medication (273)		Self-medication (77)		X ²	P-value
	No	%	No	%		
▪ Analgesics	24	8.8	13	16.9	4.2	0.04
▪ Antipyretics	38	13.9	8	10.4	0.7	0.3
▪ Antihistamines	13	4.8	7	9.1	2.1	0.1

الملخص العربي

إستخدام الأدوية بين النساء الحوامل اللاتي يترددن على عيادة طب الاسرة في منطقة ريفية محافظة الدقهليه ، مصر

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الخلفية: يعد إستخدام الأدوية أثناء الحمل هو مصدر إهتمام علمي للصحة العامة في كل من البلدان المتقدمة والنامية، حيث ينتشر إستخدام الأدوية بنسبة 44-99٪ بين النساء الحوامل وغالبًا ما يكون إستخدام الأدوية ضروريًا لعلاج الأمراض الحادة والمزمنة أثناء الحمل. **الهدف:** تهدف الدراسة إلى حساب مدى استخدام الادويه لدي السيدات الحوامل (الموصوفه وغير الموصوفه). **المنهجية وطرق البحث :** أجريت دراسة مستعرضة على 350 امرأة حامل المترددات على عيادة طب الاسرة في منطقة ريفية بمدينة المنصورة، محافظة الدقهلية خلال الفترة من 1 يناير إلى ديسمبر 2017. حيث خضعت الحوامل المدروسة لاستبيان منظم لجمع البيانات المتعلقة بالمعايير الاجتماعية الديموغرافية ، والتاريخ الولادي، والتاريخ الطبي والأدوية المستخدمه بدون إستشارة الطبيب أثناء الحمل. **النتائج:** ولقد أظهرت الدراسة أن إستخدام الأدوية أثناء الحمل بسبب المرض الحاد والمزمن كان (15٪ و 18٪) على التوالي ، المكمل الغذائي الشائع إستخدامه أثناء الحمل هما الحديد والكالسيوم بنسبة (96.2٪ ، 96.9٪) على التوالي ، وحمض الفوليك بنسبة (60٪) وحوالي (22٪) من الحوامل اللاتي خضعن للدراسة تلقين الأدوية بدون وصفة طبية من الطبيب وحوالي (9 و 92٪) من الأدوية الأكثر إستخداما بين النساء الحوامل المدروسة كانت آمنة (الفئه- ب)وفقا لتصنيف إدارة الغذاء والدواء الأمريكية. **الخلاصة:** وقد خلصت الدراسة إلى أن الأدوية المستخدمه للأمراض الحادة والمزمنة بين الحوامل المدروسة (15٪) و (18 ٪) على التوالي ، مما يشير إلى الاستخدام الرشيد للأدوية بين المجموعة المدروسة و (92 ٪) من الأدوية المستخدمة بين النساء الحوامل آمنة (الفئه-ب)وفقا لتصنيف إدارة الغذاء والدواء الأمريكية.