

Knowledge and Practice about Use of Drugs During Pregnancy

Yahya G Karwi (MSc)¹

¹College of Pharmacy ,Uruk University,Baghdad,Iraq

email: Yahya.gh.alqaisy@gmail.com

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Abstract

Background: Drugs used by pregnant women may reach the fetus through the placenta and lead to effects on the development, intellectual ability, birth defects miscarriage and stillbirth.

Objective: To assess the knowledge and practice of pregnant women concerning the risk and safety of drug use.

Patients and Methods: This cross-sectional study was conducted in a selected sample of Maternal and Child Health (MCH) clinics and private pharmacies in an Iraqi province for a period of 6 months during 2019. A special questionnaire was designed by the researcher to collect data about the study sample.

Results: Out of (250) pregnant included in the current study, 70% of them were between 20-30 year of age. Most of the study population (52%) were of schooling level of education and 70% of them not working. Pregnant whom multigravida was (82%). Of the study population (48%) in their second trimester. Pregnant participants in the current study (56%) were from the out-patient department and (70%) have antenatal care follow -up. Regarding the knowledge of the study population about the risk of the drug (10%) stated that it is risky to the mother, (45%) risky to the baby, (25%) risky to both and about (15%) stated that drugs are safe during pregnancy. Concerning the study's population' practice for drug use, the results revealed that (73%) of them use drugs with a medical prescription, (20%) without medical prescription and other use in (7%).

Conclusion: The study concluded that the knowledge and practices of pregnant women about taking medicines during pregnancy at an acceptable level and recommends raising awareness about the risks of taking unnecessary medicines for various common diseases during pregnancy.

Keywords: Pregnancy related health problems; Drug use during pregnancy; Chronic disease with pregnancy; Safe drugs use; antenatal period; Knowledge & Practice

Introduction

Pregnancy is a physiological condition where the treatment by medications and drugs presents a particular concern that cause harm to the fetus[1].

Pregnancy condition is a critical part of life in regard to both mother and the fetus so it's decisive for the pregnant women to follow up that during the gestation period. Approximately fifty percentage of mothers during gestation weeks take medication according to obstetrician's prescription or drug by hand (OTC) during this crucial period, this rate may be higher occasionally [2,3]. About 2 to 3% of all birth defects resulting from medications of certain disease or symptom [4,5]. Health care which drugs can be taken, and which should be avoided during this period is conclusive [6] role of health care personnel. Vitamins, iron, minerals, and some dietary supplements are essential for mothers during gestation period [7,8]. On the other hand, many antenatal medication exposures result in birth defects, whether they are obtained by prescription or over-the-counter (OTC). CDC and partners study medications use during pregnancy to understand how certain drugs might affect the pregnancy [9]. The results of these studies display crucial facts on the safety and risks of using specific medicines before, during, and after pregnancy [10]. There is a high risk of miscarriage during week 1- 12 as named the first trimester in which the conceiving takes place. In this period there is a high risk of miscarriage. Fetus movement can be felt during second trimester which last from week 13-28 . Parental care is very essential during the third trimester which lasts from week 29-40[11]. Many factors

affect the impact of the drug on the fetus including pregnancy date, embryo stage of growth and power of the medicine [8,12]. No much data are available regarding the drugs' effects in the period of conception and implantation. Unnecessary medications should be avoided 3-6 months before gestation [9]. Usually, pregnant mothers are not included in studies concerning the safety or risk of new medicines so little knowledge we have about the effects of taking most medications during the pregnancy period [12,13].

Generally, unnecessary drugs should not be taken during pregnancy to avoid any fetal' harm[13,14] . This study was conducted for the assessment of knowledge and practice of pregnant mothers about the risk and safety of drug use during pregnancy.

Patients and Methods

This is a descriptive cross-sectional study was conducted in Baquba City center of Diyala Province. Diyala Province is an Iraqi province located in North Eastern of Iraq about 60 km North to Baghdad Province, the Capital of Iraq. The study sample was (250 pregnant women) were selected randomly from selected MCH clinic in Al-Batul Maternity Hospital and selected private Pharmacies, for a period of 6 months during 2019. A special questionnaire was designed by the researcher to collect socio-demographic data about the study sample, in addition to data about knowledge and practice concerning drug use during pregnancy and main drugs. This study's population including pregnant women in their first, or second or third trimesters. Non-

pregnant women were excluded from the current study.

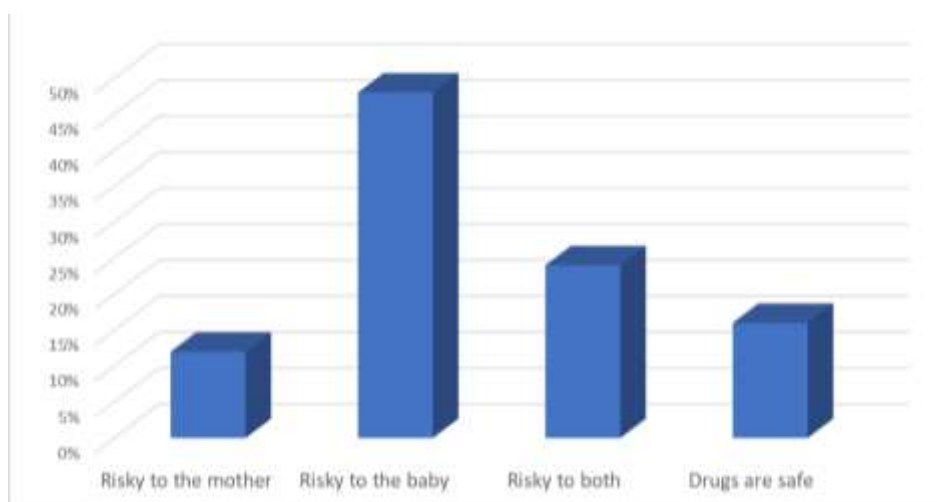
Statistical analysis

Descriptive statistical tests were used in this study including numbers, percentage, tables and figures.

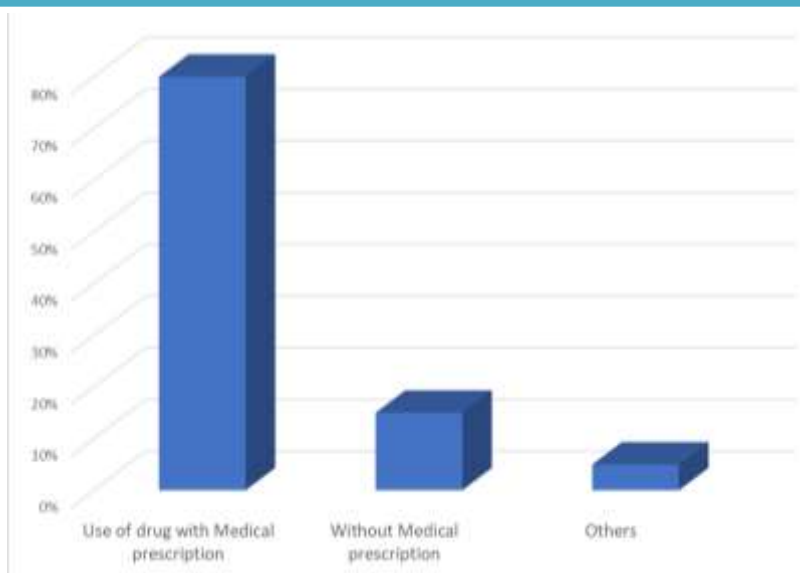
Results

Table (1): Characteristics variables of the pregnant mothers included in the study

Study sample' variables	Number	Percentage
<u>Age(year)</u>		
<20	28	20%
20-30	166	75%
>30	56	5%
<u>Education</u>		
Illiterate	22	8.8%
Schooling	130	52%
Graduates	98	39.2%
<u>Occupation</u>		
Working	62	30%
Non-working	188	70%
<u>Gravida</u>		
Primigravida	45	18%
Multigravida	205	82%
<u>Duration of Pregnancy</u>		
First term	50	20%
Second term	120	48%
Third term	80	32%
<u>Department</u>		
In patient Department	110	44%
Outpatient Department	140	56%
<u>Antenatal care</u>		
Yes	175	70%
No	75	30%



Figure(1):Knowledge of the study population about the risk and safety of drugs' use



Figure(2):Practice for drugs' use among the study population

Table (2): Main health problems and treatment use among the study population

Health problem	Drugs use
Urinary tract infection	Cefotaxime vial, phenazopyridine tab ,sistogran powder, Gentamicin vial, Keflex cap, cefix cap, Uracil powder
Fungal infection	Nystatin + Gramicidin + neomycin + triamcinolone) ointment, miconazole supp, fluconazole tab, cistogran powder, uracil powder
Vaginal discharge	Miconazole supp, Metronidazole tab, cefotaxime vial, (Nystatin + Gramicidin + neomycin + triamcinolone) ointment
Chest infection	Amoxycilin vial, (Paracetamole + Chlorpheniramine) tab, ampicillin + cloxacillin) vial, (Guifenesin + Thiophyllin) syrup, Loratadine tab
Bronchitis	Amoxicillin cap & vial, (Guafenesin + Theophylline) syrup, loratadine tap
Asthma	Albuterol
Irritable bowel syndrome	Megacolon tablets, stemetil tap, motilum tap Mebeverine + sulpride) tablets, prochlorperazine tap, Mebeverine tap
Hyperemesis grvidarum	Librax tablets, stemetil tap, novidoxcin tap(chlordiazepoxide HCL + clidinium bromide) tablets, prochlorperazine tap, (Meclozine + Pyridoxine) tap
Gastritis Nosea Allergies Constipation	Chlordiazepoxide HCL + clidinium bromide) tablets, Meclozine + Pyridoxine tablets ,metoclopramide ampule , Mebeverine tap, Magnesium + Aluminum tap, Promethazine , Docusate
Anemia	Iron , Folic acid , Multivitamins
Diabetes	

Viral infection	Acyclovir cream, acyclovir tablets, Ibuprofen tap
Pain, other condition	Acetaminophen (Tylenol), Progesterone, Ibuprofen
A medicine to treat cold symptoms, pain	Paracetamol + Pseudoephedrine, Aspirin, Naproxen

Discussion

The current study aimed to have an idea about women's knowledge and practice about drug use, safety and risk during the crucial pregnancy period. It is noticed that most women have used at least one drug during pregnancy, although limited concerns about the drug use. Each pregnant mother takes different drugs will be exposed to variable effect for both mother and fetus [5]. In certain circumstances with the presence of health problem as asthma, epilepsy diabetic or hypertension during pregnancy so total avoidance of drug use is not possible or may be risky. Sometimes other diseases or health problem develop or a previous health problem can be exacerbated this requires management by specific drug [7]. Such a condition indicates to consult her obstetrician before taking any drug including over-the-counter drugs or dietary supplements. Maternal indications for drug administration may outweigh the fetal-risk [11]. Specific medication taken early in pregnancy may kill the embryo or not affecting it at all, also the embryo is highly resistant to birth defects during this time [14]. On the other hand, the embryo is highly vulnerable to birth defects within few weeks following fertilization, i.e. organogenesis when major organs start to develop. Abortion may occur if drugs reaching the embryo, or physical abnormalities and malformations. At the

ninth week of gestation the embryo termed as a fetus that starts more growth and development [15]. No major defect during fetal stage but defect to function also tissue growth and organs. Most research conducted on drugs has excluded pregnant women to avoid fetal risk [16,17]. Also, drug initiates uterine muscles contraction and fetal injury by low blood supply which leads to pre-term labor [9,10].

Self-medication and herbal drugs used was found more in among low level of education. Health education needed in this subject 5. This is important as higher percentage of the current-study sample were of school level. More studies needed to explain herbs on the embryo, fetus and pregnant mothers [5]. In their study Lisha and Nisha stated that the most common herbs used were peppermint, ginger, thyme, chamomile, sage, aniseed, fenugreek, and green tea, their supplements used for mild upper respiratory tract infection and few intestinal disorders. The common reasons for herb use included the treatment of gastrointestinal disorders, cold and flu symptoms [5]. Health of the child is an important concern for most women while pregnant, birth and after that. Generally, pregnant women taking medication for a period of time to manage a chronic condition did not mention specific risks to themselves from taking their specific medications, as they face no side effects of

concern or because of positive effect on their own health [18].

This study showed that the study sample had limited knowledge about the risk of drug use on the growing fetus. These findings indicated more orientation and education regarding drug use during the gestation period. These findings agree with previous research indicating that women have not received adequate teratogenic risk counseling from their healthcare providers [15,16]. Appolinary and Rashida concluded that most drug dispensers have low knowledge in regard to the harmful effects of drugs during pregnancy. This is in agreement with the results of the current study [17].

Danielle et al in their study found that the pregnant women reported difficulty in abandoning the use of drugs and their knowledge about this subject is inadequate. The authors concluded It is necessary to advocate the professionals who do prenatal care in addition to the orientation of pregnant drug users, in order to promote qualified prenatal care and harm reduction this is in agreement with the results and conclusions of the current study [18].

The food and Drug Administration in 1979 adopt the certain system in regard to the teratogenic risk of drug use based on results of scientific research on animal and human studies. This system classified drugs used during pregnancy into five categories. As Category A is considered the safest category (as solid, well-controlled research for pregnant women have not shown an increased risk of fetal abnormalities e.g. vitamins B,C,D,E,folic acid and thyroxin hormone [9].

Medication fall in categories B, C and D prescribed during pregnancy (as no evidence of harm to the fetus based on animal research ; however, there are no adequate and well controlled studies in pregnant women . e.g. Analgesics and Antipyretics and Antiemetics (B / C), Acetaminophen, Phenacetin, Doxylamine Meclizine, Amoebicides , Metronidazole . Ethambutol (B), Antibiotics (B, C / D), Aspirin, Gentamicin, Antimalarials, Antifungals, INH, Rifampicin, PAS (C)79. Amikacin (C / D), Penicillin, Ampicillin, Amoxicillin, Cloxacillin Cephalosporins, Erythromycin (B), Streptomycin, Tetracyclines, Hydroxyprogesterone,(D). Sulphonamides, B / D, Anti TB Drugs , B / C. Androgens , Medroxyprogesterone, Norethindrone , Norgestrel (X). Category X is absolutely contraindicated for use through gestation (as adequate well-controlled or observational animal' research or pregnant women display positive evidence for teratologic abnormalities to fetus.

Medications Contraindicated In Pregnancy

Vitamin A and its derivatives, ACE inhibitors, Anticoagulants- warfarin.

Heparin, Estrogen and Androgens, Thyroid preparations-, Methimazole, Carbimazole, Radioactive iodine.

Propylthiouracil, Anticonvulsants- Carbamazepine, Phenytoin, Phenobarbitone, Trimethadione, Sodium valproate.

Antidepressants- Lithium, Aspirin and other Salicylates, Antibiotics- Tetracycline, Chloramphenicol, Ciprofloxacin.

Kanamycin and Streptomycin, Sulfonamides, Antineoplastic agents-, Busulfan, Chlorambucil, Cyclophosphamide,

Methotrexate, Oral Hypoglycemic drugs, Chlorpropamide, Tolbutamide.

Conclusions

The study concluded that the knowledge and practices of pregnant women about taking medicines during pregnancy at an acceptable level.

Recommendations

It recommends raising awareness about the risks of taking unnecessary medicines for various common diseases during pregnancy.

Source of funding: No source of funding.

Ethical clearance: Verbal consent from the study population to participate in the current study was taken.

Conflict of interest: No conflicts of interest with respect to this article.

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