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Open Access Review Article

**A Review on "The Prospective Assessment and Evaluation of Prescriptions during Pregnancy”**

**Shyam Sharma\*, Yogesh Sharma**

Department of Pharmacology, Jaipur College of Pharmacy, Jaipur, Rajasthan, India

**ABSTRACT**

More than 80% of pregnant women take OTC or prescription drugs during pregnancy, with only 60% of these patients consulting a health care professional when selecting a product. Common pregnancy-associated conditions include cough, cold, allergies, gastrointestinal disorders, and pain. The cough, cold, and allergy products most widely used during pregnancy are antihistamines, decongestants, antitussives, and expectorants. Current updates to the immunization schedule include administering tetanus, diphtheria, and acellular pertussis (Tdap) vaccine with each pregnancy. Influenza vaccination should also be recommended for all pregnant women and can be given in any trimester.

**Keywords:** PrescriptionsinPregnancy, Vaccination, OTC drugs.

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**\*Address for Correspondence:**

Shyam Sharma, Department of Pharmacology, Jaipur College of Pharmacy, Jaipur, Rajasthan, India

1. **INTRODUCTION:**

Drug is "a chemical substance used in the treatment, cure, prevention, or diagnosis of disease or used to otherwise enhance physical or mental well-being 1 Pharmaceutical drugs may be used for a limited duration, or on a regular basis for chronic disorders. Drugs play an important role in protecting and restoring Health. Prescription writing is a Science and art conveying message from Prescriber to the Patient. More than 50% of pregnant women take prescription or nonprescription drugs or use social drugs such as tobacco and alcohol or illicit drugs at some time during pregnancy, and use of drugs during pregnancy is increasing.2 In general, drugs should not be used during pregnancy unless absolutely necessary because many can harm the fetus. Drugs taken by a pregnant woman reach the fetus primarily by crossing the placenta, the same route taken by oxygen and nutrients, which are needed for the fetus's growth and development. About 2 to 3% of all birth defects result from drugs that are taken to treat a disorder or symptom.3

Many studies have been conducted in different parts of the world to assess the drug usage pattern during pregnancy. A study conducted to describe the pattern of drug use among Chinese women during the first trimester and to examine the impact of maternal diseases on the choice of drugs especially with the Chinese traditional patent medications (CTPM) revealed that maternal chronic diseases were not associated with the use of CTPM. Another study to assess the pattern of drug use amongst antenatal women in Nigeria showed that drug use in pregnancy was characterized by a pattern of low consumption except folic acid and native herbs. A study on drug utilization pattern in North India revealed that self-medication and herbal drugs use was more in graduates than in undergraduates, as well as it was more in the higher socio-economic group than when compared to the lower socio-economic group.4

Since there are numerous gaps in knowledge about deleterious consequences for the fetus, prescription drug use by pregnant women should be viewed as a public health issue5 Pharmacoepidemiological studies can measure the extent of prescription and teratogenic drug use in pregnant women. The studies conducted in developed countries where drug-prescribing practices are considered to be superior, have identified need for interventional measures aimed at rational prescription during the prenatal period 5,6

The World Health Organization (WHO) defined rational use of drug as patients receiving medications appropriate to their clinical needs in doses that meet their own individual requirements, for an adequate period of time and at the lowest cost to them and their community.7 Thus, appropriate drug utilization is essential in achieving quality of health and medical care for patients.

Drug use is a complex subject involving the prescriber, the patient and the dispenser4. Despite the complexity of drug use, a number of indicators have been developed, standardized and evaluated by the WHO5,6. These indicators are used to measure drug use in out-patient facilities and provide measures of the optimal use of resources in the facilities as well as help in correcting deviations from the expected standards and in planning5,6,7. Drug use indicators are grouped into three categories namely prescribing indicators comprising average/mean number of drugs per patient encounter; percentage of drugs encounter with an injection prescribed; percentage of drugs encounter with an antibiotic prescribed; percentage of drugs prescribed in generic name, and percentage of drugs prescribed from the essential drug list (EDL). Others are patient care and health facility indicators5,6–8.

1. **PHYSIOLOGICAL CHANGE IN PRAGNANCY:**

Pregnancy occurs when a sperm penetrates an egg. This is called fertilization and usually takes place in the woman's fallopian tube. The fertilized egg immediately begins to divide into a growing cluster of cells. Between 5-7 days after ovulation the fertilized egg implants into the wall of uterus and starts forming the placenta. The placenta maintains and nourishes the baby by enabling the transfer of O2, CO2, amino acids, fats, vitamins and minerals from the mother's blood. It also allows transfer of waste substances from the growing baby. From the time of implantation into the wall of uterus until approximately eighth week of life the baby is known as embryo. Development is rapid during this stage as the specialized cells begin to form the vital organs, nervous system, bones, muscles and blood. After the eighth week of pregnancy the developing baby is called a fetus. It is 2.4 cm long with most of internal organs formed and external features such as eyes, nose, mouth and ears start to appear.9

1. **HARMFUL DRUGS, SUBSTANCES AND MEDICATIONS**

Some drugs, substances or medications may be harmful during pregnancy, depending on the amount and frequency of use. These include:

Medicines–including some prescription drugs, over-the-counter medicines and complementary medicines, such as herbal remedies or nutrition supplements illicitly used prescription drugs – such as

* benzodiazepines or morphine
* Tobacco
* Alcohol
* Caffeine – for example, tea, coffee and cola drinks
* Illegal drugs – such as cannabis, heroin, cocaine or amphetamines
* Substances used as drugs – such as inhalants (glues or aerosols).

Drugs such as heroin and amphetamines are often mixed or ‘cut’ with unknown substances. These unknown substances can also be harmful to the pregnancy or fetus.8,9

1. **SAFE MEDICATIONS TO TAKE DURING PREGNANCY**
* Diphenhydramine (Benadryl)\*
* Dextromethorphan (Robitussin®)\*
* Guaifenesin (Mucinex® [plain]) \*
* Vicks Vapor Rub® mentholated cream
* Mentholated or non-mentholated cough drops
* (Sugar-free cough drops for gestational diabetes should not contain blends of herbs or aspartame)
* Pseudoephedrine ([Sudafed®] after 1st trimester)
* Acetaminophen (Tylenol®)\*
* Saline nasal drops or spray
* Warm salt/water gargle
1. **MEDICINAL RISK:**

The average risks of delivering a baby with major birth defects is relatively low for most people; about 3 to 5%, according to Australian pharmacy lecturer, Treasure McGuire (2015). She says, however, that untreated diseases, like epilepsy or depression, and consumed substances like medicine, herbal remedies, and foods, can increase that risk – especially when their use coincides with critical foetal development during the first and third trimesters.10

1. **TIPS TO CONSIDER BEFORE TAKING AN OTC DRUG:**
* Try nondrug measures. For complaints commonly handled by OTC products, nondrug measures can help alleviate symptoms without the risk. For example, stress busters such as massage, meditation, relaxation exercises, or even a walk around the block, can help with tension headaches. And rest, fluids, and chicken soup are a much safer way for pregnant women to deal with symptoms of a cold than antihistamines and decongestants.9-11
* Consult your healthcare provider. Don't take anything without first discussing it with your practitioner. “There are trade-offs with OTC products,” Mitchell said. “You have to balance your need to take something with any possible risks.”
* Avoid combination products. Multi-symptom cold and allergy medications typically contain ingredients from the “off-limits” list. For example, while Tylenol pain reliever (acetaminophen) is relatively safe for occasional use during pregnancy, Tylenol Sinus Congestion and Pain and Tylenol Cold Multi-Symptom liquid contain the decongestant phenylephrine, which is not.
* Read labels. Ingredients such as alcohol and caffeine turn up in surprising places. For example, Vick’s Nyquil Cold & Flu Liquid contains alcohol. And CVS Aspirin-Free Tension Headache, is indeed, free of aspirin, but still contains caffeine.
1. **CONCLUSION:**

It can be hard to know if a medicine is safe for your baby. Most medicines are not studied in pregnant women, because researchers worry about how the medicines might affect the baby. But some medicines have been taken for so long by so many women that doctors have a good idea of how safe they are. Talk to your doctor or midwife before you take any medicines. Not all medicines are safe to take when you are pregnant. Some medicines can harm your baby. That includes over-the-counter or prescription drugs, herbs, and supplements. Always speak with your health care provider before you start or stop any medicine. Not using medicine that you need may be more harmful to you and your baby than using the medicine. For example, many pregnant women take prescription medicines for health problems like diabetes, asthma, seizures, and heartburn. The decision about whether or not to take a medicine depends on the risks and benefits. You and your health care provider should make this choice together.

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