

Awareness among pregnant women regarding the use and safety of drugs during pregnancy in the state of Punjab: A cross-sectional observational study

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ABSTRACT

Background: Indiscriminate use of drugs and cosmetics among a pregnant woman is always a challenge in the antenatal care for health-care providers especially in developing countries. There is a potential risk to the growing fetus due to irrational use of drugs and cosmetics during pregnancy awareness, and adequate knowledge of their use can prevent many drug-induced complications during pregnancy. **Objective:** The objective of the study was to evaluate the awareness among pregnant women regarding the use and safety of drugs and cosmetics. **Materials and Methods:** A cross-sectional observational study was conducted in various antenatal clinics of the state of Punjab. 500 pregnant women were enrolled in the study and the questionnaire was prepared in the local language to assess the knowledge and beliefs of pregnant women. Data analysis was done using Chi-square test. **Results:** A very few pregnant women had knowledge that drugs have any effect on the fetus and less than half believe that drugs should be taken only by consultation by the doctor. Majority pregnant women believe that sufficient time and attention are not given by a doctor during an appointment. Only 2% of women had the idea of antenatal sessions. More than half of the pregnant women considered alternative remedies to be more safe in pregnancy while a very few had the idea that cosmetics are safe in pregnancy. **Conclusion:** Thus, it can be concluded that the majority of participants in the study have poor knowledge regarding benefits and adverse effects of the use of drugs and cosmetics during pregnancy.


KEY WORDS: Pregnancy; Drugs; Knowledge; Fetus

INTRODUCTION

Irrational and over the counter use of drugs are a very common practice all over the world. Pregnancy is a special physiological phenomenon during which special precautions have to be taken while using any drug. There is alteration in the pharmacokinetics of various drugs during pregnancy.

Moreover, certain drugs can easily cross the placenta and can cause harm to the fetus.^[1]

In pregnancy, any type of treatment with drugs requires a special caution as there is a risk of potential teratogenic effects of the drug. It has been reported that congenital abnormalities due to teratogenic drugs have a key role in the etiology of congenital abnormalities.^[2] Large number of pregnant women are prescribed various drugs for the treatment of various ailments especially related to pregnancy.^[3] Congenital abnormalities are ranked as the third most common cause of prenatal mortality. In India, about 2.5% of newborn children suffer from various birth defects. During pregnancy mother and fetus act as a single functional unit so medication to pregnant women should be given

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judiciously as the drugs given can result in critical structural and functional deformities in the developing fetus.^[4] In 1979, food and drug administration (FDA) recommended a system for the assessment of the teratogenic risk due to drugs taking into consideration the quality of data obtained from various animal and human studies. FDA divided various drugs used in pregnancy into five categories, namely Categories A, B, C, D, and X. Category A is the safest category and drugs in Category X are absolutely contraindicated in pregnancy. This classification of drugs to be prescribed during pregnancy is of great help to the doctor for prescribing required drugs to pregnant women.^[5] This classification applies to only allopathic drugs. There are no data regarding the safety of alternative medicines or chemicals in cosmetics which are consumed by pregnant women on their own. Majority of women use unnecessarily medications and cosmetics during pregnancy. 92.6% of pregnant women consume medications without consulting any health provider. 20% of women do self-medication with more than five drugs.^[6] In 2003, the National Institute of Child Health and Human Development reported that the study concerned with the use of drugs in pregnancy is the most neglected areas of pharmacologic research resulting in the lack of FDA obstetric labeling.^[7] There is an urgent need of the hour for improving the information and assessment regarding the use of medication and cosmetics during pregnancy.^[8]

Use of cosmetics is very common in women as compared to men.^[9] Cosmetics contain many chemical ingredients which have an adverse effect on the body. These include parabens, retinoid plasticizers, bisphenol A, synthetic dyes, benzophenones, antimicrobials, dioxane, formaldehyde, and heavy metals.^[10] Use of cosmetics is potentially toxic in pregnant women as there is altered metabolism during pregnancy.^[11] There are very few studies on the assessment of the perception of women knowledge of risks involved in cosmetics use during pregnancy. Moreover, in India, it is very easy to procure drugs from a pharmacy without a valid prescription. Patients self-medicate themselves with alternative treatments which are risky as their interaction with allopathic drugs is not well documented.

Judicious use of drugs only on the recommendations of the qualified medical practitioner, proper knowledge of their adverse effects and awareness of the use of drugs and cosmetics during pregnancy are mandatory for sound maternal and child health. Hence, this study was conducted to explore the knowledge, attitude, and awareness of drugs and cosmetics use by the pregnant women of Punjab.

MATERIALS AND METHODS

The present study was a prospective observational study carried out in various antenatal clinics of Punjab. 500 pregnant women were included in the study. Written informed consents

were taken from all the pregnant women who agreed to be part of the study. Appropriate approval was obtained from the Institute Ethics Committee. Sociodemographic profile was noted.

Data were obtained using a semi-structured questionnaire made in the local language. Pregnant women were told to answer the questionnaire which included questions and statements regarding their general beliefs and attitudes regarding the use of medication and cosmetics during pregnancy. The questionnaire was prepared according to the World Health Organization guidelines.^[12]

Statistics

Chi-square test was used to test for differences in proportions between answers given to each of the 11 statements regarding the use of medication and cosmetics during pregnancy. Microsoft Excel word was used.

RESULTS

During 6 months of the survey in various antenatal clinics of Amritsar, 500 pregnant women were interviewed and completed the questionnaires. Various demographic characteristics such as age, literacy level, employment status, residence, their parity and history of any abnormal childbirth in a previous pregnancy were noted. The 11 self-structured questionnaires for assessing the medication knowledge, beliefs, and risk awareness for the use of drugs among pregnant women was prepared. In our study, 40% of women knew that drugs have an effect on unborn fetus while 60% were ignorant about it. Less than half of participants (48.5%) believed that drugs should be taken only by prescription by the doctor during pregnancy. More than half (58%) women discuss the safety or use of any drug with the health-care provider, but only 3.6% of pregnant women could list the drugs which should be avoided during pregnancy. Most of the pregnant women (68.4%) believe that sufficient time and attention are not given to them by a doctor during appointment while 31.6% of women were satisfied with the attending doctor. The fact that congenital anomalies can be due to irrational use of drugs is known only to 22.4% women in our study while 77.6% did not have any idea about this. Many pregnant females believed (62%) that a lot of drugs are given by doctors during pregnancy. There is very little knowledge of the time of gestational period when the use of drugs should be completely avoided (11.4%). Only 2% of women had an idea of antenatal counseling sessions while 80% did not have any idea of these counseling sessions. 66.6% of women believed in natural alternative remedies while 33.4% did not consider them useful. 23.4% of women had knowledge of the effect of the use of cosmetics during pregnancy. The primary source of information of use and safety of drugs during

pregnancy were their gynecologist (53.6%) then general practitioner (15.6%) and pharmacist (11.6%). The other sources were family and friends (10%) and the internet and media (4%). 5.2% of pregnant women had multiple sources of information regarding medication use [Tables 1-3].

DISCUSSION

The aim of the current study was to assess the awareness of pregnant women about the use and safety of drugs and cosmetics in pregnancy. There should be cautious and limited use of drugs during pregnancy as there is a higher risk of damage to the fetus during intrauterine life.

Table 1: Sociodemographic profile

Parameters	No. of pregnant women (%)
Age (In years)	
20–30	48.80
30–40	39.60
40–50	11.60
Education	
Illiterate	34
Matric	24
Graduate	42
Occupation	
Housewife	61.40
Related to health	11
Other profession	27.60
Residence	
Rural	38
Urban	62
Parity	
Nulliparous	39.60
Multigravid	60.40
Previous abnormal childbirth	
Yes	4
No	96

The sociodemographic profile, especially education and occupation, has a great influence on the awareness of the use of medication during pregnancy.^[13] In our study, the majority of pregnant women were educated and living in an urban region. In the previous study, it has been shown that the level of education and type of occupation have a higher influence on the awareness of the use of medication.^[13] In the current study, most of the women had no idea that drugs have an effect on unborn fetus and less than half of the pregnant women are of the opinion that its better to take only those drugs during pregnancy which has been prescribed by a doctor. Our findings are in agreement with a previous study which has shown that pregnant women had very less knowledge regarding medication and its adverse effects during pregnancy.^[14] Our study revealed that very few pregnant females have knowledge of the list of drugs to be avoided during pregnancy. Another study done on awareness of drugs among pregnant women has shown similar results.^[15] The present study showed that majority of women did not have any idea of congenital anomalies of newborn can be the result of indiscriminate use of the drugs during pregnancy which is similar to another study conducted with the same goal.^[13] In the current study, very few pregnant women had knowledge of the time of pregnancy when there should be total avoidance of drugs which is in accordance with another study done on pregnant women.^[15] However, another study done in Sudan showed that the majority of pregnant women had the knowledge that the first trimester was the most critical period when drugs can do more harm.^[16] Our study revealed that most of the women believe in alternative medicines or natural remedies for various ailments in pregnancy. This is in accordance with another study which showed that there is a belief among pregnant women that natural or alternative medicine is far better than allopathic medicines.^[13,15] However, one similar study showed that there was less percentage of women who believed in natural remedies in pregnancy.^[16] This can be due to cultural differences. In the present study, very few pregnant women had an idea that use of cosmetics can have an adverse effect on the unborn baby. This is in contrast to another study done to evaluate the

Table 2: Questionnaire to assess awareness of the use and safety of drugs

Question	Yes (%)	No (%)
Do drugs have any effect on the unborn fetus	40	60
Do you believe that Drugs should be taken only prescribed by a doctor during pregnancy	48.5	51.5
Did your health provider discuss the safety of drug with you	58	42
Can you list the drugs to be avoided during pregnancy	3.6	96.4
Is sufficient time and attention given by doctor during an appointment	31.6	68.4
Do you think that lot of drugs are given by doctor	62	38
Do you Participate in antenatal counseling sessions	2	98
Do you have any Knowledge of congenital abnormalities due to drugs	22.5	77.5
Do you know that there is any specific duration of pregnancy when drugs should be completely avoided	11.4	88.6
Do you prefer to use alternative remedies during pregnancy	33.6	66.4
Are all cosmetics safe in pregnancy	23.4	76.6

Table 3: Source of information on the use of drugs during pregnancy

Source of information	Percentage
Gynecologist	53.6
General Practitioner	15.6
Pharmacist	10
Family and friends	11.6
Internet and media	4
Multiple sources	5.2

perception of women regarding the use of cosmetics during pregnancy which showed that almost half of the pregnant women had the knowledge of potential risks of cosmetics.^[17] Disagreement of the results can be due to the fact that there are few or no antenatal counseling sessions held for awareness of pregnant women. Moreover, in our study, very few women had any knowledge regarding antenatal sessions whereas in the western world, it is more common. The primary source of information regarding the use of drugs was their gynecologist and pharmacist which is in accordance with another study done for the same purpose.^[18]

Strength and Limitations

Majority of the pregnant women had no knowledge about the adverse effects of indiscriminate use of drugs and cosmetics on the unborn fetus. This special population needs to be educated and sensitized regarding risks involved with their indiscriminate use. Various contact points like health providers working in various health centers should be involved in the process of education of pregnant women especially during the first trimester to prevent the adverse outcome. In our study, we did not correlate the knowledge of medication use during pregnancy with their sociodemographic profile.

CONCLUSION

Our assessment reveals that knowledge regarding the use of drugs and cosmetics during pregnancy is lacking among pregnant women in the state of Punjab.

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