

Analysis of package inserts of commonly used drugs in obstetrics and gynecology in Jhalawar district: an observational study in Rajasthan, India

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ABSTRACT

Background: Package Insert is the primary source of drug information for the patient. It is a printed leaflet that contains information based on regulatory guidelines for the safe and effective use of a drug. Studies on package inserts in India had shown that crucial information was often missing, and they lacked uniformity.

Methods: 100 oral drugs used in Obstetrics and Gynecology from different brands were collected from big pharmacies located at Jhalawar and available package inserts were analysed according to Sections 6.2 and 6.3 of Schedule D of Drugs and Cosmetics Rules, 1945.

Results: Out of 100 oral drugs studied, package inserts were found in 72 drugs, most available information in therapeutic indicators was Posology and method of administration (100%) followed by contra-indications (94.4%), use in pregnancy and lactation (83%), interactions (77.8%) whereas less information about antidote and least about ability in driving and use of machine. In pharmaceutical indicators, it is instruction for use (86%), followed by special precautions for storage (76.4%), shelf life in the medical product as packaged for sale (52.8%).

Conclusions: This study showed that many information relevant to the safe and effective use of medication was lacking in the analyzed package inserts. It is, therefore, recommended to update the existing package inserts based on criteria mentioned in the Schedule D of Drug and Cosmetic Act, 1945.

Keywords: Drugs and cosmetics rule, Over the counter drug, Obstetrics and gynecology, Posology, Package inserts

INTRODUCTION

As per data by All India Origin Chemists and Distributors-Advanced Working, Action and Correction System (AIOCD-AWACS) market research firm, Gynecology drugs are one of the strong selling drugs in pharmaceutical market; they rank as the 8th in all the super groups with 16.4% growth in the month of February 2012.¹

However, they are the least studied drugs in terms of package inserts (PI).

The doctor patient ratio in India is 1:1700 which is much less than the recommended 1:1000.^{2,3} In such a scenario, it becomes very difficult for the doctor to impart detailed information regarding a particular drug to the patient. At the same time, it is difficult for the patient to remember every detail described by the doctor. A package insert thus forms a good source of information for the patient in addition to the instructions given by the doctor.

A package insert is a document, approved by the administrative licensing authority, which is provided with the package of a drug.⁴ Many a times, it is not feasible for

the doctor to refer to research articles to look for recent advances in relation to a particular drug, in such a circumstance, the package inserts forms a critical source of information to the physician aiding the physician in prescribing the drug safely. It is therefore imperative that the package inserts be revised and updated regularly as a large part of the society depends on them to gather information. Regulatory requirements for drug package inserts vary across nations. United States-Food and Drug Administration (US-FDA) and the Directorate-General for Health and Food Safety, European Commission, state their regulations governing the content and format of labelling for drug products from time to time.^{5,6}

In India, the regulations for the manufacture, import, distribution and sale of pharmaceutical products are specified in the ‘Drugs and Cosmetics Act (1940) and Rules (1945)’. ‘Section 6.2 and 6.3’ of ‘Schedule D (II)’ of the Rules deals with the labelling and packaging information of drugs as well as enlists the indicators according to which information should be delivered in the package inserts.⁷

Aims of the study were to study the information available in drug package inserts of Jhalawar district and assessed the improvement over last few years and to Provide information which is essential for the safe and effective use of the drugs, and hence reducing the number of adverse reactions resulting from medication errors.

Objectives of the study was to ensure the conformance of package inserts with the Indian regulatory guidelines in terms of drug information and whether there is any improvement over last few years.

METHODS

It was an observational study. Inquiries was made with the major pharmacies of Jhalawar district and a list of Obstetrics and Gynecological drugs will be prepared which were brought without the prescriptions. It included both over the counter and prescription drugs which are accessible without prescription. 100 oral drugs used in Obstetrics and gynecology from different brands were collected from big pharmacies located at Jhalawar district and available package inserts were analysed and was compared with the guideline given according to Sections 6.2 and 6.3 of Schedule D of Drugs and Cosmetics Rules, 1945. Total sixteen Indicators from drug and cosmetic rule was compared. Data was analysed by descriptive statistics and results were expressed as percentage and absolute numbers.

Therapeutic indicators under Sections ‘6.2’ of schedule D (II), drugs and cosmetics act (1940) and rules (1945).

- Posology and method of administration.
- Contra-indications.
- Special warnings and special precautions for use, if any.

- Interaction with other medicaments and other forms of interaction.
- Pregnancy and lactation, if contra-indicated.
- Effects on ability to drive and use machines, if contra-indicated.
- Undesirable effects/side effects.
- Antidote for overdosing.

Pharmaceutical indicators under Sections ‘6.3’ of schedule D (II), drugs and cosmetics act (1940) and rules (1945).

- List of excipients.
- Incompatibilities.
- Shelf life in the medical product as packaged for sale.
- Shelf life after dilution or reconstitution according to direction.
- Shelf life after first opening the container.
- Special precautions for storage.
- Nature and specification of the container.
- Instructions for use/handling.

RESULTS

According to Section 6.2 the package inserts should be in English and in this study, all the inserts examined were in English and not in regional languages. 100 drugs were evaluated for package inserts.

Table 1: Therapeutic indicators under Sections ‘6.2’ of schedule D (II), drugs and cosmetics act (1940) and rules (1945).

Indicators	Sum of positive score (n) (Out of 72)	Percentage of positive score (%)
Posology and method of administration	72	100
Contra-indications	68	94.4
Special warnings and special precautions for use, if any	68	94.4
Interaction with other medicaments and other forms of interaction	56	77.8
Pregnancy and lactation, if contra-indicated	60	83.3
Effects on ability to drive and use machines, if contra-indicated	06	8.3
Undesirable effects/side effects	62	86
Antidote for overdosing.	40	55.6

Package inserts were present in 72 oral drugs. Amongst the package inserts analysed, a 100% of inserts mentioned the

posology and method of administration of the drug. 94.4% package inserts provided complete information regarding the contraindications as well as special warnings and precautions for drug use. 77% specified about drug-drug interactions in much detail, while interactions other than drug-drug were not mentioned in any insert. 83.3% gave the subtitle of use in pregnancy and lactation of which 42 inserts categorized the drug safe in pregnancy, 10 inserts mentioned the absence of safety studies in this particular population, while 8 inserts contraindicated the drugs' use in pregnancy and lactation. 8.3% of the inserts informed caution while driving and using machines. 86% listed the adverse reactions possible with the drug. 55.6% mentioned drug overdose, of which 11 gave specific antidotes while remaining 29 speak about symptomatic management as shown in Table 1. As far as the pharmaceutical information is concerned, 43% gave the container details while 76.4% gave the storage precautions. However, 45.8% gave the list of excipients, 33% mentioned incompatibilities and only 2.8% gave the shelf life after first opening the container as shown in Table 2.

Table 2: Pharmaceutical indicators under Sections '6.3' of schedule D (II), drugs and cosmetics act (1940) and rules (1945).

Indicators	Sum of positive score (n)	Percentage of positive score (%)
List of excipients	33	45.8
Incompatibilities	24	33.3
Shelf life in the medical product as packaged for sale	38	52.8
Shelf life after dilution or reconstitution according to direction	08	11
Shelf life after first opening the container	02	2.8
Special precautions for storage	55	76.4
Nature and specification of the container	31	43
Instructions for use/handling.	62	86

DISCUSSION

In this study all package inserts were in English. This could pose a problem to the reader in terms of understanding the information provided. An additional insert in the regional language would prove to be helpful. In this study package inserts were present in only 72% cases. Gibbs et al, study, a national survey, showed that 97% patient wanted to receive patient information leaflet with the drug. They also found that patients who had received package insert were more satisfied than those who did not.⁸ Another study by Gibbs et al showed patients who had received package inserts were more compliant with the treatment. They were more knowledgeable about their disease and the

treatment.⁹ In this study, information regarding posology and contraindications is in comparison to the study conducted by B. Sowmya et al.¹⁰ Effect of the drug on the ability to drive and operate machines has also received more value i.e. 8% as compared to 2% in the study by Kalam et al, a point which was found to be much neglected.¹¹ 83% package inserts had mentioned about the effect of drug on pregnancy and lactation. It is an important category as many drugs can have adverse effect on the pregnancy and can be secreted in the milk.¹² Apart from this, shelf life was less in this study. Drugs can be less efficacious after the shelf life, so this information should be present in all package inserts.¹³

One has to also take into consideration that the package insert not only aids the physician but also provides assistance and a tool for learning to the patient.^{14,15} It was found that the package inserts seldom, if ever, categorized the ADRs as suggested in the US FDA and EMEA guidelines. In the special warnings and precautions section, many a time, information on pediatric and geriatric use was missing. This could be of concern as a study from northern India has shown that more than 56% of hospital admissions, due to adverse drug events, occurred in people aged over sixty years.¹⁶ Package inserts should contain only the information that is of paramount importance for the patient, although this is debatable from a legal point of view.¹⁷ Although there is an improvement in the quality and content of Indian package inserts over time, but still there are areas which remain unaddressed. It is important to realise that, apart from prescriber and pharmacist, patients are also end users of package insert. Currently in India, the structure and content of the information on the inserts is geared towards prescribers only. Given the fact that unauthorized over-the-counter drug dispensing is a prevalent practice in India, and that patient education is in infant stages, there is a need for package inserts to be more patient-friendly and specifically designed to avoid medication errors. The supply of the package inserts should be made mandatory in the package along with the drugs. The government should make strict rules to ensure that the pharmaceutical companies comply with the regulatory guidelines.

The limitation of this study is that package inserts of only orally administered Obstetrics and gynecological drugs were included. Inclusion of packing inserts of topical and injectable drugs would give more detailed results.

CONCLUSION

This study indicated that many information relevant to the safe and effective use of medication was lacking in the analyzed package inserts. It is, therefore, recommended to update the existing package inserts based on criteria mentioned in the Schedule D of Drug and Cosmetic Act, 1945. Given the fact that unauthorized over-the-counter drug dispensing is a prevalent practice in India, and that patient education is in infant stages, there is a need for package inserts to be more patient-friendly and

specifically designed to avoid medication errors. This can be achieved by conducting regular surveys to model the package inserts for the population.

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