Print ISSN 2319-2003 | Online ISSN 2279-0780

IJBCP International Journal of Basic & Clinical Pharmacology

doi: 10.18203/2319-2003.ijbcp20151346

Research Article

Drug package inserts: how accessible is the information?

M. J. Sudha[1]*, S. Viveka[2], S. Remya[1], A. L. Udupa[1]

[1]Department of Pharmacology, Azeezia Institute of Medical Sciences, Kollam, Kerala, India, [2]Department of Anatomy, Azeezia Institute of Medical Sciences, Kollam, Kerala, India

Received: 25 September 2015
Accepted: 25 October 2015

***Correspondence to:**
Dr. M. J. Sudha,
Email: sudhasudhasudha@gmail.com

ABSTRACT

Background: Information given in drug package inserts is often not easily accessible by patients and practitioners. Presentation of important information in an easily accessible manner fulfills the very purpose of inserts. In the present study, accessibility of important information in drug package inserts is evaluated.
Methods: We evaluated 110 package inserts. Accessibility to important information was noted under following headings: use of box, use of special/bigger font or color, use of table of contents and information in front sheet. Each of these parameters was given a point. Cumulative accessibility score of more than three considered as accessible. Provision of toll free numbers and internet addresses of the companies noted.
Results: Information in inserts regarding posology, method of administration, precautions under special conditions, contraindications, pharmacokinetics, interactions, pregnancy and lactation, driving, and machine use precautions were adequate and orderly in most. Only seven drug inserts mentioned important information with special font/different color. 18 drug inserts had used boxes. About 13 inserts used bigger font size for revealing important information. We observed a mean accessible score was 0.37 a insert. Only two inserts carried toll free numbers.
Conclusion: Important information in drug package inserts is not easily accessible. Display of toll free numbers and internet addresses for queries and reporting adverse drug reactions is highly recommended.

Keywords: Drug package inserts, Accessibility, Interactions, Toll free number, Patient friendly

INTRODUCTION

All informational and persuasive activities by manufacturers and distributors, the effect of which is to induce the prescription, supply, purchase, and/or use of medicinal drugs constitutes drug promotional activities. All such drug promotional literature has to be approved by regulatory authorities. Drug package inserts is an important drug promotional literature. Package inserts are the authentic source of information for all drugs especially for the new molecules. These drug package inserts are designed to address the treating physicians as well as pharmacists and drug administrators (e.g., nurses).[1] This acts as user manual for the patients. All of them largely relay on these package inserts for first-hand information about the drug under consideration. Reliable and precise information about the product (drug) is important for effective use. Exaggerated or incomplete information may lead to unwanted often serious complications. Hence, these drug package inserts have an important impact on the patient's compliance and thus on the effectiveness of the drug.

Manufacturing companies are expected to provide information with regard to uses, side effects, contraindications, and method of administration along with each drug. This information may be in the form of drug package inserts or leaflets. The exact content of such drug inserts may vary among different countries. In United States, such drug inserts contain information for the healthcare professionals and are referred as prescription drug information.[2] In European Union, these inserts are called package leaflets and contain information as approved by European Medicines Agency. These package leaflets are for addressed to patients.[3] In India, drugs and cosmetics act (1940) and rules (1946) regulates the information in such drug package inserts. It is not clearly mentioned whether these package inserts are intended

to healthcare providers or patients in India. Enforcing authority, Central Drugs Standard Control Organization (CDSCO), has set few regulations for drug package inserts. As per section 6.2 and 6.3 of schedule D, all drug package inserts must be in English, having information regarding, posology and method of administration, contra-indications, special warnings and special precautions for use, if any. They must also have information regarding interaction with other medicaments and other forms of interaction. Special mention must be made regarding contraindications if any during pregnancy and lactation. Effects of ability to drive and use machines, if contra-indicated must be mentioned. Undesirable effects or side effects must be noted. Antidote for overdosing has to be mentioned. Package insert should indicate the following pharmaceutical information: 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. Instructions for use or handling have to be mentioned.[4] In spite of all the regulations, enforcing authorities, quite often these drug package inserts have information that reads more like legal disclaimers than useful or actionable health information.[5] This leads to few patients if any, who will read, follow and understand the literature. If such is the scenario, drug package inserts fail to achieve the very purpose of its presence.

There are a few studies evaluating the adherence of drug package inserts to above mentioned guidelines. Mahatme et al., have evaluated 270 package inserts and found that the information provided in most of them are not uniform and canot be accessed easily.[6] They have pointed out that in spite of these regulatory and enforcing authorities, more than 10% of package inserts lacks information on pregnancy and lactation effects of drugs. They also noted that government supply inserts are of poorer information than that of non-government package inserts. Shivkar noted, after studying 92 inserts, that information on interactions and overdose missing in most.[7] Only five inserts have information on commonly encountered side effects.

In 2006, US Food and Drug Administration have revised the guidelines for prescription drug information.[8] To manage the risks of medication use and to reduce medication error, these package inserts were made to provide up-to-date information in easy-to-read format that draws attention of physician and patients to the most important piece of information. Prioritizing the warning information has significant impact on reducing preventable adverse effects. They made changes in way information is presented in these inserts in such a way that it is better-understood, easily accessed, and becomes more memorable to physicians.

In this regard, our regulations with respect to information on package inserts have to be more patient friendly. It has to be more accessible and understandable. Are we prepared to enforce such regulations in India? Are we already following some if not all changes? How informative is our drug package inserts? To answer these questions we studied all the latest drug package inserts. We tried to look for the information in the way it has to be presented to the patients. This is the first such Indian study which has tried to look into the changing information presentation pattern in package inserts.

METHODS

We studied all drug package inserts available to us during the period of June 2014-August 2014. Same drug formulation and from same company were excluded. We evaluated the information given in them for the possible compliance with CDSCO. Parameters assessed were - posology and method of administration, contra-indications, special warnings and special precautions. Other parameter studied was - whether important information was easy to locate, highlighted and easily accessible? To answer this we evaluated following feature and given a score of 1 each: information in the box, in a separate color and font, a font size bigger than the entire text, in the front sheet of the package insert. If there was any table of contents for easy reference to detailed safety and efficacy information was noted and given a score of 1. Out of score 5, more than 4 is considered as good accessibility; 3 as accessible; 2 and below is considered as non-accessible. Overall additive scores of all inserts was added up and mean score per insert was calculated. Date of initial approval of drug was noted, so that the treating physician and patient will get to know how long the drug is in the market. A toll-free number and internet reporting information for suspected adverse events was noted. Such facility will encourage more widespread reporting of suspected side effects. All data were tabulated and statistical analysis was done.

RESULTS

Total of 124 drug package inserts were collected, of which 14 were excluded for duplicates. Among 110 inserts included in the study, 66 were oral preparations, 24 were intravenous injections, 8 were intramuscular injections, 2 were subcutaneous injections, 1 was inhalational and rest 9 were topical applications. Table 1 shows parameters analyzed. Only 33 were addressed to patients; 45 carried heading "for health care professional." However, rest 28 inserts did not mention to whom it was addressed to. Posology and method of administration was mentioned and was clear in all the inserts evaluated. To our surprise the most important aspect of drug usage, contraindications were not mentioned in 11 drug inserts. C max was mentioned in 11 drug inserts instead of volume of distribution.

Accessibility of important information was evaluated by scoring one for each of the parameter in Table 2. Overall accessibility score was 37 out of 550. Indicating the important information in most of the drug inserts was not accessible. None of the inserts had important information

within a box with special font or color in a bigger size in front sheet with separate table of contents.

Only two drug inserts provided toll free numbers for contacting companies for any queries relating to drug use and administration (Table 3). Only three drug inserts reported adverse drug reactions (ADRs) in terms of percentage.

DISCUSSION

Today, patients seek more information about the drug they are administering.[9] Present drug package inserts need to evolve with society where people carve for better information. With the advent of ease of accessibility of information through internet, presenting such information in the drug package inserts will add to greater compliance of patients. Concealing of such information in many ways may lead to suspicion and intern to lesser compliance.[10-12] Moreover, it is the very right of the patient as a consumer to know everything about the drug they are using.[13] In the present study, though we found that the data is mentioned in accordance with enforcing authority section 6 of schedule D (II) of the rules, retrieval of data is complicated. There is no uniformity in regulation as to whom this drug package insert is addressed.

Table 1: Tabulation of parameters noted in drug package inserts in the present study (n=110).

Parameter	Present (%)	Absent (%)
Posology and method of administration	110 (100)	Nil
Contraindications	99 (90)	11 (10)
Special precautions	57 (52)	53 (48)
Interactions	90 (82)	20 (18)
Precaution during pregnancy and lactation	84 (76)	26 (24)
Pediatric dose	73 (66)	37 (34)
Geriatric dose	40 (36)	70 (64)
Antidote for overdosing	59 (54)	51 (46)
Driving and machine use	13 (12)	97 (88)
Pharmacokinetics		
Volume of distribution	45 (42)	65 (58)
Clearance	55 (50)	55 (50)

Table 2: Tabulation of parameters of accessibility of important information in drug package inserts.

Parameter	Present (%)
Special font or color	7 (6)
Use of box	18 (16)
Bigger size	13 (12)
Information present in front sheet	0
Table of contents	0

Table 3: Tabulation of parameters relating ease and access of reporting ADRs.

Parameter	Present (%)
Date of initial approval of drug	0
Toll free number for communication of ADRs	2
Internet address for reporting ADRs	1

ADRs: Adverse drug reactions

We found that information was presented in an orderly manner in all drug inserts in contrast to a similar previous study. Posology and method of administration is present in an orderly manner in all in contrast to a previous study where they noted contradiction.[6,14] Due to low doctor patient ratio in India, many patients depend on these drug package inserts for more information. It is the very responsibility of the manufacturer to provide important information in a user/patient friendly manner. Important information can be the most common adverse effects, significant contraindications, significant drug interactions, and advice during special conditions, contraindications during pregnancy and lactation, driving and machine safety.[15] These important information must be printed in such a way that patient and often practitioners must be able to note it, the moment they go through the literature. In our study, we evaluated the ease of finding such important information in drug inserts and we found that our drug companies have to work a long way in making such patient friendly inserts. This was the first study to evaluate such accessibility to information in inserts in India. We say with conviction that information in inserts is far from easy accessibility.

Jignesh, way back in 2010, suggested few urgent changes in design and preventability of drug inserts.[13] Stating the similar problems as that of present study, he has suggested that drug inserts has to become as information tool for patients. He stressed that drug package inserts should address patients. It should be written in non-technical language. We agree with his views. Drug inserts must carry in the heading to which it is addressed and should carry information accordingly.

Information regarding date of first approval of drug and date since drug in the market will give an essential idea to both prescribers and patients about relative strength of the claims made by the company regarding efficacy and safety of the drug.[16] Such information is currently lacking in most inserts partly because there is no rule enforcing such disclosure. Toll free numbers or any such telecommunicative methods to talk to executives of manufacturing company will lead to better understanding of administrative methods especially the newer medications. Separate portals in company web sites giving answers to frequently asked questions may lead to improved patient confidence and better compliance. Such interactions with patients are essential for improved communication of ADRs.

CONCLUSION

In our study, we found that the information of drug inserts is too inaccessible. If drug companies can provide important information in a patient accessible manner it can lead to better compliance. Provision of toll free numbers and internet addresses to contact manufacturer in case of queries related to administration and reporting ADRs should be made mandatory in drug package inserts.

ACKNOWLEDGMENTS

Authors thank Pharmacy staff of Azeezia Institute of Medical Sciences for providing essential drug package inserts. We also thank, Principal and Directors of the institution for permitting us to study drug package inserts.

Funding: No funding sources
Conflict of interest: None declared
Ethical approval: The study was approved by the Institutional Ethics Committee

REFERENCES

1. Joubert PH, Skene D. Attitudes of private medical practitioners towards package inserts and other drug information sources. S Afr Med J. 1984;66(8):306-7.
2. Food and Drug Administration, HHS. Requirements on content and format of labelling for human prescription drug and biological products. Final rule. Fed Regist. 2006;71(15):3921-97.
3. Guideline on the Packaging Information of Medicinal Products for Human Use Authorized by the Community; 2008.
4. Government of India Ministry of Health and Family Welfare. Drug and Cosmetics Rules. India: Government of India Ministry of Health and Family Welfare; 1940.
5. Miquel AV, Ortín Font F, Marrugat J, Pavesi M. Assessment of the comprehension of new rephrasing drug package inserts. Med Clin (Barc). 2000;115(11):410-7.
6. Mahatme M, Dakhale G, Hiware S, Wankhede S, Salve A, Mahatme S. Comparison of Indian package inserts in public and private sector: an urgent need for self-regulation. Int J Basic Clin Pharmacol. 2013;2(2):165.
7. Shivkar YM. Clinical information in drug package inserts in India. J Postgrad Med. 2009;55(2):104-7.
8. The FDA Announces New Prescription Drug Information Format. U. S. Food and Drug Administration. The FDA Announces New Prescription Drug Information Format; 2006.
9. Rajan MS, Sreedhar. Information seeking behaviour of clinicians in a Semi Urban town in Southern India. J Clin Diag Res. 2008;2:1069-73.
10. Morris LA. Patient package inserts. A new tool for patient education. Public Health Rep. 1977;92(5):421-4.
11. Prosser H, Almond S, Walley T. Influences on GPs' decision to prescribe new drugs-the importance of who says what. Fam Pract. 2003;20(1):61-8.
12. Dikshit RK, Dikshit N. What information is available on request from drug advertisers in India? BMJ. 1996;313(7061):855-6.
13. Ved K. Package inserts in India: need for a revision. Int J Pharm Sci Res. 2010;1:454-6.
14. Lal A, Sethi A. Drug package inserts in India. Ann Pharmacother. 1996;30(9):1041.
15. Bergk V, Haefeli WE, Gasse C, Brenner H, Martin-Facklam M. Information deficits in the summary of product characteristics preclude an optimal management of drug interactions: a comparison with evidence from the literature. Eur J Clin Pharmacol. 2005;61(5-6):327-35.
16. Bennett A, Jiménez F, Fields LE, Oyster J. Back to first principles: a new model for the regulation of drug promotion. J Law Biosci. 2015;4:lsv014.

Cite this article as: Sudha MJ, Viveka S, Remya S, Udupa AL. Drug package inserts: how accessible is the information? Int J Basic Clin Pharmacol 2015;4:1132-5.