Original Article

Pharmacology Section

Accuracy of the Drug Advertisements in Medical Journals in India

MOTILAL C. TAYADE, NANDKUMAR. B. KULKARNI

ABSTRACT

Introduction: Drug advertisements in medical journals are an important tool to inform physicians about drug usage. The ethical criteria for drug promotion were laid down by the WHO in 1988.

Aims and Objectives: The present study was planned to assess the accuracy of the drug advertisements which were published in Indian medical journals from different specialties.

Materials and Methods: We studied 882 drug advertisements which were published in different indexed medical journals from various specialties during the period from January 2008 to December 2010. The advertisements for laboratory equipments were excluded. The advertisements were independently categorized into different groups of specialties. The information content of the drug advertisements were analyzed.

Statistical analysis: In this representative survey, we found more than 70 % advertisements which had not mentioned drug storage instructions and had not warned about major interactions. We also found that more than 50% advertisements had not included the information regarding side effects and the precautions which had to be taken during drug usage. The information about pharmacological data was found in less than 1% of the advertisements.

Conclusion and Results: Our analysis indicated that the drug advertisements which were published in various Indian medical journals provided less information which was related to the vital aspects of the drug.

Key Words: Drug Advertisements, Indian Journals, World Health Organization, FDA

KEY MESSAGE

- Accuracy of drug advertisements in Indian journals, ethical criteria for drug advertisements in Indian journals, Status of drug advertisements in Indian journals.

INTRODUCTION

The pharmaceutical industry's primary aim is to maximize the profit attempts to generate more prescriptions of its products by means of advertisements in various medical journals [1]. The ethical criteria for drug advertisements should lay the foundation for proper behaviour concerning the production of drugs which are consistent with the search for truthfulness and righteousness [2]. Drug advertisements have an important effect on the prescribing habits of the physicians [3]. Is the information content in the drug advertisements which are published in India really ethical? The present study was planned to analyze the content information of the drug advertisements in various Indian medical journals.

Our aim was to analyze the content information of the drug advertisements in various medical journals in India. Our objective was to find the usefulness of these advertisements for general practioners as well as for medical students.

MATERIALS AND METHODS

In this study, we screened a total of 882 drug advertisements from pharmaceutical companies which had appeared in different specialities in the journals which were published from January 2008 to December 2010. [Table/Fig-1]

Indexed journals of the recent three years were selected from different specialties. The advertisements for laboratory equipments were excluded. Only new drug advertisements were included, while the reminder/repeat advertisements were excluded from the present study. The advertisements were categorized according to their specialties. [Table/Fig-2]

S. No.	Journals
1.	Indian journal of Tuberculosis.
2.	Indian journal of Ophthalmology
3.	Indian heart journal
4.	Indian journal of cancer
5.	Indian journal of surgery
6.	Indian journal of practical pediatrics
7.	Journal of Indian academy of pediatrics
8.	Journal of anesthesiology
9.	Journal of association of physicians of India
10.	Indian medical gazette
11.	Indian journal of pharmacology.
12.	JAMA- India

[Table/Fig-1]: List of journals evaluated

The information content was collected by using the format of the drug information sheets which were suggested by the WHO's ethical criteria for medical drug promotion, (1988) Geneva [2]. The percentage of the advertisements providing information content about each aspect was worked out and tabulated. [Table/Fig-3] and [Table/Fig-4]

S.No.	Specialty of drug advertisements	Total no. of advertisements	%
1.	Infection	240	27.21
2.	Nutrition	62	7.02
3.	Skin	40	4.53
4.	Alimentary system	62	7.02
5.	Cardiovascular system	86	9.75
6.	Nervous system	32	3.62
7.	Respiratory system	44	4.98
8.	Genitourinary system	40	4.53
9.	Eye	60	6.80
10.	Orthopedics	150	17.00
11.	Ear-Nose-Throat	36	4.08
12.	Others	30	3.40

[Table/Fig-2]: Distribution of advertisements according to different specialties

S. No.	Content information	Total advertisements which included the content	%
1.	Generic name	697	79.02
2.	Brand name	882	100
3.	Contents (Ingredients)	400	45.35
4.	Therapeutic uses	420	47.61
5.	Dosage form	400	45.35
6.	Side effects	340	38.54
7.	Precautions, Contraindications	300	34.01
8.	Major interactions	260	29.47
9.	Name of pharma. Company	882	100
10.	Contact information	876	99.31
11.	Use of graphics	200	22.67
12.	Use of Models	340	38.54
13.	Colour advertisements	580	65.75
14.	B/W advertisements	302	34.24

[Table/Fig-3]: Analysis of information contents

S.No.	Information	Total advertisements included the information	%
1.	Pharmacological effects	5	0.56
2.	Mechanism of action	2	0.22
3.	Pharmacokinetic data	7	0.79
4.	Overdose & correction	0	0
5.	Additive added	2	0.22
6.	Shelf life	5	0.56
7.	Storage condition	7	0.79

[Table/Fig-4]: Pharmacological Data

OBSERVATIONS

We found that the brand name and the generic name of the drugs, use of the drugs and the name and contact information of the related pharmaceutical companies were mentioned in more than 70% of the advertisements. However, the therapeutic uses, side effects and the contraindications of the drugs were not mentioned in more than 50% of the advertisements. Colour advertisements were found in more numbers (65.75%) than the B/W advertisements (34.24 %). The use of graphics (22.67%) as well models like females, children, etc. (38.54 %) were also found in many advertisements. The information about pharmacological data like pharmacological effects, mechanism of action, pharmacokinetics, overdose with correction and about the additives which were added in the drug preparations was found in less than 1% of the advertisements.

DISCUSSION

Recent advances in research and clinical experiences keep on changing the drug therapy for many diseases. Therefore, scientific information on new drugs and therapeutics is undoubtedly of paramount importance. The industry drug advertisements are intended to be persuasive rather than educational and it is not meant for educating the physicians about the use of drugs [4]. The central argument for carrying advertisements in medical journals is only independency [5].

This representative survey on the accuracy of the drug advertisements in different Indian journals provides less content which is related to the vital aspects of the drugs like major interactions, side effects, drug storage, etc. We found that a majority of the drug advertisements were coloured, as well as models were also used for advertising the drugs, thus ruling out the limitations of the budget.

A study which was done by B.Gitanjali [6] which was related to the BMJ Indian editions, noted almost the same observations regarding the status of the drug advertisements. A similar research work which was done by A.Lal (1998) [1], found information concerning the adverse effects, precautions, contraindications, warning major interactions, ingredients which were known to cause problems, drug overdose, drug storage and the cost which was indicated, in less than 40% of the advertisements.

Recently, V. Tandon et.al (2004) [7] compared the standard of the Indian journal advertisements with the international journal advertisements. He found that the advertisements in international journals provided more complete drug information as per the recommendations which were laid down by the WHO, as compared to those in the national journals. However, they were found to be deficient in providing information regarding some of the aspects like pharmacological effects (12%), mechanism of action (16%) and pharmacokinetic data (8%), whereas the information in the advertisements of the national journals was inadequate in nearly all aspects of pharmacological data, clinical information (0%), pharmaceutical information (0-33.3%) and legal aspects (0-11.11%). The main areas which were stressed upon in the national journals appeared to be the brand names (100%), indications (92%) and the addresses of the manufacturers (88.88%). Following the introduction of new regulations for drug advertisements in Switzerland, 53% of all assess pharmaceutical claims which were published in major medical journals were not supported by the cited referenced study which was done by Macarena G. et.al. [8].

However, there are regulatory requirements which are different even in the various developed countries. There are agencies like the MCA (Medicine Control Agency) in the UK to ensure that these regulations are followed strictly. In the United States, the marketing and the distribution of pharmaceuticals is regulated by the Federal Prescription Drug Marketing Act of 1987. The IFPMA code is followed strictly in developed countries like the USA and the UK. Recently (Feb 3, 2011), the Journal of Emergency Medicine from Australasia, which publishes the latest research and unique patient cases in the field of emergency medicine, has announced that it will no longer carry advertisements which are paid for by the pharmaceutical companies [9].

The establishment of ethical criteria for drug promotion is based on the updating and the extension of the ethical and scientific criteria which were established in 1968 by the WHO [2]. All the regulatory aspects which are related to the advertisements of drugs in India, are covered under the Drugs and Cosmetics Act,1940 and the Magic Remedies Act, 1954. There has been inadequate information in the drug advertisements which were published regularly in different journals in India.

CONCLUSION

Our analysis indicated that the drug advertisements which were published in various Indian medical journals provided less information regarding the vital aspects about drugs.

RECOMMENDATION

We strongly suggest the need of a uniform regulation and a code to be followed and effective supervision by the central agencies and the government to overcome this problem.

ACKNOWLEDGEMENTS

We are very thankful to The Librarian, Central Library, Pravara Institute of Medical Sciences, A.P. Loni Tal. Rahata, Dist. Ahmednager, Pin-413736 for permitting us to use the journals for analysis.

We are also very thankful to Miss. Pratibha M. Karandikar, Lecturer, PREC, Loni, for her extensive help and support during the preparation of this work.

ABBREVIATIONS

WHO : World Health Organization
FDA : Food & Drug Administration
MCA : Medicine Control Agency
IFPMA : International Federation of Pharmaceutical Manufacturers Association

REFERENCE

[1] A Lal, M L Sharma. Drug advertisements in Indian medical journals. *IJPP* 1992; 36 (2): 139-140.
[2] Ethical criteria for medical drug promotion: 1988:776-889.
[3] A Lal, Moharana AK, Chandra P, Ray A. Critical evaluation of references in drug advertisements: An Indian experience. *Journal of Assoc Physicians India*. 1996 Nov; 44 (11) : 778-9.
[4] Nies AS. Principle of therapeutics. In: Hardman JG, Limbird LE, Gilman AG, editors. *Goodman & Gilman's the pharmacological basis of therapeutics*. 10th Ed. New York: Mc Graw-Hill 2001. p. 64.
[5] Richard Smith, Should medical journals carry drug advertising? *British Medical Journal* (July 2007) 335/74: 7610
[6] B. Gitanjali, C H Shashindran, KD Tripathi, K R Sethuraman. Are drug advertisements in Indian edition of BMJ Unethical? *BMJ*; 1997; 315 -459.
[7] Tandon Vishal, Gupta BM, Khajuria V . Pharmaceutical drug advertisements in national and international journals. *Indian Journal of Pharmacology* October 2004; 36/5: 313-315.
[8] Macarena G., Santiago, Heiner C Bucner & Alain Nordmann, Accuracy of drug advertisements in medical journals under new law regulating the marketing of pharmaceutical products in Switzerland. *BMC Medical Informatics & Decision making*, 6947- 8-61 (2008)
[9] Danny Rose, Medical Journal bans drug company ads., *AAP Medical Writer*, Feb.3, 2011. www.pharmagossip.blogspot.com / 2011/02/m.

AUTHOR(S):
1. Dr. Motilal C. Tayade
2. Dr. Nandkumar. B. Kulkarni

NAME OF DEPARTMENT(S) / INSTITUTION(S) TO WHICH THE WORK IS ATTRIBUTED:

Department of Physiology, Rural Medical College,
Pravara Institute of Medical Sciences, A.P. Loni, Tal. Rahata,
Dist Ahmednager, State- Maharashtra, Pin – 413736.

NAME, ADDRESS, TELEPHONE, E-MAIL ID OF THE CORRESPONDING AUTHOR:
Dr. Motilal C. Tayade
Postgraduate student, MD (Physiology)
E-mail: vijaytayade@yahoo.co.in; Phone: 09604102508.

DECLARATION ON COMPETING INTERESTS:
No competing Interests.

Date of Submission: **Feb 22, 2011**
Date of Peer Review: **Mar 29, 2011**
Date of Acceptance: **Apr 04, 2011**
Date of Publishing: **Jun 13, 2011**