Al Ameen J Med Sci 2022;15(2):159-164 ● US National Library of Medicine enlisted journal ● ISSN 0974-1143

ORIGINAL ARTICLE CODEN: AAJMBG

Ethical standards of medicinal drug promotion: A critical appraisal of drug promotional literatures

Shatavisa Mukherjee[1], Nikhil Era[2*] and Susanta Kumar Bordoloi[2]

[1]Department of Clinical and Experimental Pharmacology, School of Tropical Medicine, 108, Chittaranjan Avenue, Kolkata-700073, West Bengal, India and [2]Department of Pharmacology, Mata Gujri Memorial Medical College & Lions Seva Kendra Hospital, Purab Palli Road, Kishanganj-855107, Bihar, India

Received: 23rd December 2020; ***Accepted:*** 25th January 2022; ***Published:*** 01st April 2022

Abstract: *Introduction:* Drug promotional literature has been an easy and hand-ready drug information source for the physician, which tends to have a powerful impact on physicians' prescribing behavior. However compromised and biased information presented through promotional materials should be analyzed critically before translating the same to practice. Such information dissemination, its mode and presentation are critically guided by WHO guidelines of ethical drug promotion. The present study was conducted to critically appraise the DPLs distributed to prescribing physicians in outpatient departments of a tertiary care hospital in lines of WHO guidelines. *Materials and Methods:* Left behind drug promotional brochures were collected randomly from various outpatient departments and were adjudged based on WHO criteria for ethical medicinal drug promotion. DPLs were also evaluated for various claims and references supporting the claims made. Type of pictures used in promotional material, their contextual relevance were assessed. *Results:* In our study, 5.29% of all DPLs were found fulfilling almost all the WHO criteria for ethical drug promotion. Safety information was absent in 92.79% cases. Only 42.79% of the DPLs had statements supported by cited references. Promotional brochures made striking use of various types of pictures, covering a major area of the promotional material. *Conclusion:* A hand-in-hand approach of practitioners, pharmaceutical companies and the regulatory authority may help in ethical drug promotion and rational drug prescribing thereby ensuring safer patient outcomes.

Keywords: Drug Promotional Literature, WHO Guidelines on Ethical Drug Promotion, Claims, Rational Drug Prescribing, Pharmaceutical Marketing.

Introduction

Drug advertisement using promotional literature remains a mainstay strategy of drug promotion in pharmaceutical marketing [1]. As per the World Health Organization (WHO), 'promotion' is defined as 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 [2]. A drug promotional literature (DPL) typically includes product characteristics, side effects, dosage regime, contraindications and various marketing claims with references should be accurate, reliable, informative, updated and capable of substantiation. These must not contain any misleading statements which may in turn cause undue risk or irrational drug use. However, past few decades have witnessed unethical facets of drug promotional literatures of multiple pharmaceutical companies [3]. Lack of time to access medical literature and remain updated with the ever-changing scientific knowledge of medicines, have made DPL an easy and hand-ready drug information source for the physician, which tends to have a powerful impact on physicians prescribing behavior [4].

Absence of standard recommendations for drug promotion and lose regulatory restrictions on pharmaceutical industry in this regard, has given companies an upper hand in open and continued use of unethical drug promotion [5]. Compromised and biased information presented through drug advertisements and other promotional materials should be analyzed critically by physicians before translating the disseminated

knowledge to practice. This necessitates a strong need to educate, train and sensitize the medical fraternity regarding the harmful nature of unethical drug promotion. Awareness regarding adjudging the credibility, reliability and authenticity of these DPL should be infused amongst the prescribers. At this outset, the present study tried to take a stock of this situation with a broad objective of critically analyzing the DPLs of different pharmaceutical companies on the basis of WHO guidelines on ethical drug promotion.

Material and Methods

An observational, cross-sectional study was conducted in a tertiary care teaching hospital in Eastern India after its approval by the Institutional Ethics Committee. Left behind drug promotional brochures were collected randomly from various outpatient departments, namely medicine, orthopaedics., gynaecology, ophthalmology, surgery, dermatology, paediatrics, and psychiatry. Literature promoting medicinal devices, orthopaedic prosthesis, alternative medicines, drug monographs, reminder advertisements and drugs name list were excluded. All collected DPLs were adjudged based on WHO criteria [6] for ethical medicinal drug promotion 1988, which states that an ideal promotional literature should contain following information:

1. The name(s) of the active ingredient(s) using either international non-proprietary names (INN) or the approved generic name of the drug;
2. The brand name;
3. Amount of active ingredient(s) per dose;
4. Other ingredients known to cause problems, i.e. adjuvant;
5. Approved therapeutic uses;
6. Dosage form or dosage schedule;
7. Safety information including side effects and major adverse drug reactions;
8. Precautions, contraindications and warnings;
9. Major drug interactions;
10. Name and address of manufacturer or distributor;
11. Reference to scientific literature as appropriate.

In addition to this information, DPLs were evaluated for various claims about the medicinal product. Claims were classified into seven categories as efficacy, safety, cost, convenience, pharmacokinetic property, pharmaceutical property and exaggerated emotional claims. Number of references quoted in support of the claims made in the promotional literature was further evaluated. Numerous picturesused by the pharmaceutical companies to make the DPLs more attractive and persuasive, were evaluated for their pictorial content in terms of type of pictures used (men, women, elderly, children, doctors, medicinal products, or other treatment unrelated pictures), their contextual relevance and number of scientific figures.

Results

Of 271 drug promotional brochures collected from the OPDs of various specialties, 208 were included in the study and 63 (reminder cards, drug list, brochures promoting equipment, orthopedic prosthesis) were excluded from the study.

Type of drug: The therapeutic classification of the drugs promoted in the promotional material is represented in Table 1. Out of 208 promoted drugs, 94 (45.2%) were fixed dose combinations (FDCs) whereas 114 (54.8%) were single drug preparations. Cardiovascular drugs (23.08%) were the most promoted group of drugs followed by antimicrobials (21.63%), gastrointestinal drugs (13.46%), endocrine (11.06) and respiratory drugs (9.62%).

Table-1: Therapeutic Classification of Promoted Drugs

Therapeutic Classification	No. of DPLs (%)
Cardiovascular drugs	48 (23.08)
Antimicrobials	45 (21.63)
Gastrointestinal drugs	28 (13.46)
Endocrine drugs	23 (11.06)
Respiratory drugs	20 (9.62)
CNS	19 (9.13)
Analgesics	10 (4.81)
Skin	8 (3.85)
Others (Nutritional Supplements, ophthalmic agents, blood products)	7 (3.36)

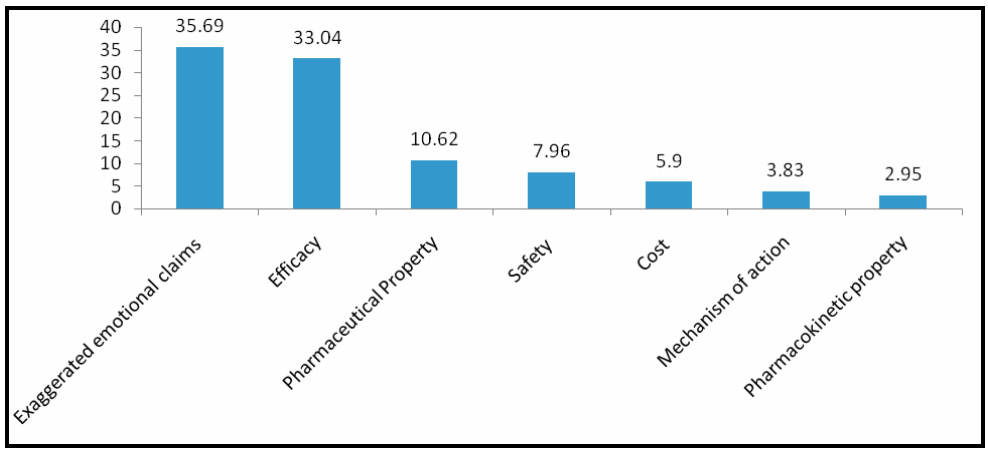
Fulfillment of WHO criteria: It was observed that only 5.29% of all the brochures fulfilled almost all the criteria laid down by WHO, the ethical guidelines for drug promotion except the criteria of 'other ingredients known to cause problems'. It was found that most of the evaluated brochures were satisfying only four criteria namely generic name, brand name, active drug per dosage form and approved therapeutic use/s.

Safety information was absent in 92.79% of promotional literatures. Complete address of the manufacturer or the distributor were absent in 84.61% of DPLs. Only 42.79% of the promotional materials had statements supported by cited references. To conclude, the therapeutic information provided in the promotional literature was not found to be sufficient for the prescriber to make a rational decision to use the promoted drug (table-2).

Table-2: Assessment of DPLs using criteria as per WHO Guidelines for Ethical Drug promotion

WHO Criteria	Complete Information in DPL [n(%)]	Incomplete Information in DPL [n(%)]	No information in DPL [n(%)]	Total
Generic name	208 (100)	0 (0)	0 (0)	208
Brand name	208 (100)	0 (0)	0 (0)	208
Active drug per dosage form	208 (100)	0 (0)	0 (0)	208
Approved therapeutic use/s	208 (100)	0 (0)	0 (0)	208
Other ingredients known to cause problems	0 (0)	0 (0)	0 (0)	208
Dosage form	198 (95.19)	0 (0)	10 (4.81)	208
Regimen	10 (4.81)	188 (90.38)	10 (4.81)	208
Safety information	4 (1.92)	11 (5.29)	193 (92.79)	208
Manufacturer/Distributor's name and address	32 (15.38)	0 (0)	176 (84.61)	208
References	89 (42.79)	13 (6.25)	106 (50.96)	208

Fig-1: Claims laid by DPLs



In addition to these, pharmaceutical industry made tall claims regarding the product as much as 5 per brochure, as seen in majority of the DPLs (Fig-1). A total of 339 claims were made in 208 DPLs evaluated. A total of 121 exaggerated emotional claims were made in 208 brochures, followed by that of 112 efficacy claims. 36 claims were made of better pharmaceutical property followed by 27 safety claims.

Some promotional literatures cited references in support of claims mentioned in their brochures, though majority of the claims were not supported by robust data. Only 102

references were cited for 339 claims made in 89 brochures of total evaluated DPLs. References in the range of 2-7 per brochures were given. Classification of references distinctly demonstrates that citations from journal articles (84.31%) were the maximum in number followed by website citations, databases, study reports and books (table-3).

Table-3: References cited in Promotional Literature

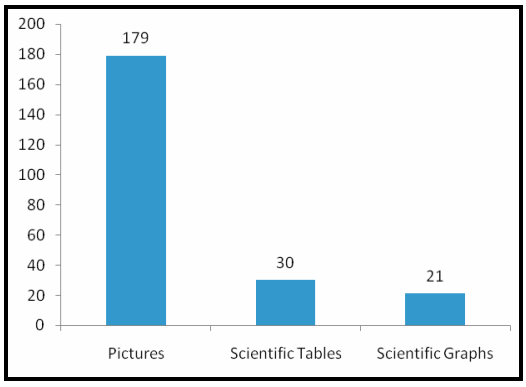
Sl No	Types of References			Retrievable	
				Yes	No
1	Journal article	Research Article	RCT	26	0
			RPCT	14	0
			Retrospective study	11	0
			NRCT	9	0
			CCT	3	0
			In-vitro study	2	0
			Case report	5	0
		Review article		8	0
		Editorial article		5	0
		Journal article not retrievable		0	3
2	Books			3	0
3	Websites			3	4
4	Data on file			0	3
5	Study reports			0	3
	Total			**102**	

Promotional brochures made striking use of various types of pictures (Table-4), covering a major area of the promotional material. Of these 208 DPLs, 133 contained relevant pictorial representations, 57 mixed and 18 irrelevant. Our findings demonstrated that a total of 230 different pictorial representations were present in the evaluated DPLs, of which 179 were pictures, 30 scientific tables and 21 scientific graphs (Fig-2). The pictures were also eye-catching and flashy. Pictures of disease and treatment outnumbered others with 32% followed by pictures of women and children, organ and doctors with 18%, 17% and 12% respectively.

Table-4: Types of Pictures in DPLs

Types of Pictures	% of DPLs
Disease/Treatment	32
Women and Children	18
Organ	17
Doctor	12
Patients	11
Healthy People	10

Fig-2: Representations in DPL



Discussion

Every year a large multitude of drugs join the brigade of already existing drug formulations in the Indian market with a claim of being a "me too" product. Pharmaceutical industry also devises various strategies for their product promotion incorporating the developments in the evidence based medicine movement into it. Drug promotional practices carried out by pharmaceutical industry are a

sort of commercial relationship between prescriber and pharmaceutical company [7].

A drug promotional literature forms an integral product promotional tool for the pharmaceutical companies designed for the healthcare professionals who are indirectly dependent on commercial sources of drug information. Information thus provided here should be accurate, scientific and evidence based as it can directly influence their prescribing behavior. Regardless of apprehensions pertaining to truthfulness of claims in this literature, healthcare professionals often rate these brochures as one of the imperative source of drug information [8].

Thus information dissemination, its mode and presentation are critically guided by WHO guidelines of ethical drug promotion. The present study was conducted to critically appraise the DPLs distributed to prescribing physiciansin outpatient departments of a tertiary care hospital in lines of WHO guidelines.

In our study, 5.29% of all DPLs were found fulfilling almost all the WHO criteriafor ethical drug promotion. This was higher than earlier reported studies by Mangla et al [9] and Sekar P et al [10]. Most neglected aspect of these promotional items was safety information like adverse reactions, drug interactions, over dosage. Such information was absent in over 90% promotional. These finding coincide with other studies conducted in India and abroad [11-12]. Moreover, absence of manufacturer/ distributors' complete address in majority of the DPLs strikes a matter of concern and should be strictly dealt with.

With only 42.79% of the DPLs having statements supported by cited references, it becomes quite an interesting notable fact that such promotional sources being less evidence based, should not govern the decision of 'rational prescribing'. Unsubstantiated claims about efficacy or pharmaceutical property were majorly irrelevant, which may serve as a misguiding source for the practitioners who are lured by catchy terms/ phrases. Recent references were cited in very few DPLs which remain as a matter of concern as updated information are imperative in boosting evidence-based practice.

Promotional brochures made striking use of non-specific pictorial contents, occupying a substantial space of the promotional article, which could otherwise be utilized to present drug related information. A standard practice following laid down norms for ethical drug promotion should be mandated for pharmaceutical companies. This shall in turn harmonize the information dissemination and encourage rational prescribing.

Conclusion

Prescribers' education, development of stringent policy and its adherence by pharmaceutical companies for ethical drug promotion may serve as effective measures to help the scenario. A hand-in-hand approach of practitioners, pharmaceutical companies and the regulatory authority may help in ethical drug promotion and rational drug prescribing thereby ensuring safer patient outcomes.

Financial Support and sponsorship: Nil

Conflicts of interest: There are no conflicts of interest.

References

1. Jacob NT. Drug promotion practices: A review. *Br J Clin Pharmacol.* 2018; 84(8):1659-1667.
2. Lal A. Pharmaceutical drug promotion: how it is being practiced in India?. *J Assoc Physicians India.* 2001; 49:266-73.
3. Vachhani PM, Solanki MN, Desai MK. An evaluation of drug promotional literatures published in scientific medical journals. *J Pharm Bioallied Sci.* 2016; 8(3):248-252.
4. Cardarelli R, Licciardone JC, Taylor LG. A cross-sectional evidence-based review of pharmaceutical promotional marketing brochures and their underlying studies: is what they tell us important and true?. *BMC Fam Pract.* 2006; 7:13.
5. Leonardo Alves T, Lexchin J, Mintzes B. Medicines Information and the Regulation of the Promotion of Pharmaceuticals. *Sci Eng Ethics.* 2019; 25(4):1167-1192.
6. WHO. Ethical Criteria for Medicinal Drug Promotion. [Last accessed on 2020 Nov 30]. Available from: *http://www.apps.who.int/ medicinedocs/documents/whozip08e/whozip08e.pdf*
7. Fickweiler F, Fickweiler W, Urbach E. Interactions between physicians and the pharmaceutical industry

generally and sales representatives specifically and their association with physicians' attitudes and prescribing habits: a systematic review. *BMJ Open*. 2017; 7(9):e016408.
8. Mikhael EM. Evaluating the reliability and accuracy of the promotional brochures for the generic pharmaceutical companies in Iraq using World Health Organization guidelines. *J Pharm Bioallied Sci.* 2015; 7(1):65-68.
9. Mangla N, Gupta MC. Evaluation of rationality of drug promotional literature using WHO ethical criteria for medicinal drug promotion. *Int J Health Sci Res.* 2018; 8(4):55-62.
10. Sekar P, Punnagai K, David DC. Evaluation of the rationality ofclaims made in drug promotional literature in west chennai. *Asian J Pharm Clin Res.* 2015; 8(5):107-109.
11. Hailu HG, Gobezie MY, Yesuf TA, Workneh BD. Critical evaluation of the validity of drug promotion materials in Ethiopia. *Drug, Healthcare and Patient Safety.* 2019; 11:47-54.
12. Ganashree P, Bhuvana K, Sarala N. Critical review of drug promotional literature using the World Health Organization guidelines. *J Res Pharm Pract.* 2016; 5(3):162-165.

Cite this article as: Mukherjee S, Era N and Bordoloi SK. Ethical standards of medicinal drug promotion: A critical appraisal of drug promotional literatures. *Al Ameen J Med Sci* 2022; 15(2): 159-164.

*All correspondences to: Dr. Nikhil Era, Assistant Professor, Department of Pharmacology, Mata Gujri Memorial Medical College & Lions Seva Kendra Hospital, Purab Palli Road, Kishanganj-855107, Bihar, India. E-mail: nikhilera@yahoo.com