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Short Communication

CRITICAL EVALUATION OF DRUG PROMOTIONAL LITERATURE FOR DRUGS USED IN CARDIOVASCULAR DISEASES

SAIBHAVANA D, MUKTA N CHOWTA, NITHYANANDA K CHOWTA

Department of Pharmacology, Kasturba Medical College, Mangalore, Manipal University India.
Email: bangaru2003@gmail.com

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ABSTRACT

Objective: This study was conducted to critically evaluate the drug promotional literature pertaining to drugs used in cardiovascular disorders using WHO criteria for ethical promotion of drugs.

Methods: The brochures were collected from physicians to whom it was circulated by the pharmaceutical representatives. These promotional literatures are tested against WHO criteria for the ethical medicinal drug promotion.

Results: A total of 309 drug promotional literature pertaining to cardiovascular drugs collected. Analysis of these literatures showed that none of the promotional literature fulfilled all the WHO criteria. All the materials mentioned INN and the brand name of the product. The criteria presented least were information about adjuvants, overdosage and cost of the drug.

Conclusion: None of the promotional literatures fulfilled all the WHO criteria laid down for the ethical promotion of drugs.

Keywords: Drug promotion, WHO criteria, Brief prescription information.

The number of drugs used in cardiovascular diseases is progressively increasing as more and more new drugs are introduced. Pharmaceutical promotion refers to 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. The drug promotional literature provided by the pharmaceutical companies is one of the most important sources of drug information to the clinicians [1].

As the busy physicians may at times rely on these promotional literatures, the information provided in this promotional literature should be factual, evidence based, unambiguous and balanced. Unfortunately, most of the times, these literatures are neither factual nor evidence based [2, 3]. Information provided may be inaccurate and inappropriate which may lead to inappropriate prescription resulting in increased healthcare cost without much benefit to the patients. A very few physicians are equipped with the necessary skills, patience and knowledge to critically evaluate the information provided in the drug promotional literature [1]. The studies have shown that physicians prescribing behavior are influenced by promotional literature [1-6]. Very few studies have critically evaluated the drug promotional literatures. Information from such studies is quite valuable in educating the clinicians as well as to have a strict vigilance over these promotional literatures. This study was done to critically evaluate the drug promotional literature pertaining to drugs used in cardiovascular disorders using WHO criteria for ethical promotion of drugs.

This **s**tudy was conducted after obtaining approval from the institutional ethics committee at a tertiary care hospital. Drug promotional pamphlets and brochures containing claims for the drugs used in cardiovascular disorders, which are circulated by the pharmaceutical representatives collected from the outpatient department of medicine and cardiology. These promotional literatures are tested against WHO criteria for ethical medicinal drug promotion [7] as mentioned below

1. The name(s) of the active ingredient (s) using international nonproprietary name (INN)

2. The brand name

3. Amount of active ingredient (s) per dose

4. Other ingredients known to cause problems (adjuvants)

5. Approved therapeutic uses

6. Dosage form or dosage schedule

7. Safety information including side effects and major adverse drug reactions, precautions, contraindications, warning and major drug interactions

8. Name and address of manufacturer or distributor

9. Reference to the scientific literature as appropriate

Table 1: Appraisal of drug promotional literature of cardiovascular drugs (as per who criteria) (n=133)

Criteria	Number (%) of literatures
INN	309 (100)
Brand name	309 (100)
Amount of active ingredient (s) per dose	305 (98.7%)
Other ingredients known to cause problems (adjuvants)	10 (3.2%)
Approved therapeutic uses	261 (84.5%)
Dosage form	252 (81.6%)
Dosage regimen (including special population)	63 (20.4%)
ADR	45 (14.6%)
Precautions & warning	42 (13.6%)
Contraindications	45 (13.6%)
Major drug interactions	32 (10.4%)
Overdosage information	10 (3.2%)
Name and address of manufacturer or distributor	305 (98.7%)
Reference to scientific literature as appropriate	130 (42.1%)
Cost of the drug	18 (5.8%)

Tables 2 shows the number literatures showing tables, graphs and pictures. Among 309 literatures, 50 (36.2%) literatures were containing at least one graph, 280 (90.6%) did not present tables, 161 (52.1%) did not have pictures.

The claims, which are written on those promotional literatures, were categorized as claims about efficacy, safety, cost and convenience. Claims were considered as exaggerated when a minor advantage of a drug was unnecessarily magnified showing exaggerated applications. Pictures, graphs and tables in the promotional literature were analyzed based on their relevance to indication, area covered and number per literature. Area covered for providing abbreviated prescribing information or brief prescription information (BPI) which is calculated by measuring the breadth and width of this space. Later, the proportion of the total space utilized for BPI is calculated. BPI usually contains all the essential details such as composition, uses, dosage regimen, contraindications, adverse drug reactions, precautions, over dosage information etc.

Analysis of 309 drug promotional literature pertaining to cardiovascular drugs collected showed that none of the promotional literature fulfilled all the WHO criteria. Table 1 shows the number of literatures showing various WHO criteria. All the materials mentioned INN and the brand name of the product. The criteria presented least were 'other ingredients known to cause problems' i.e. adjuvants and overdosage information (3.2% each). An area used for providing brief prescribing information (BPI) was ranging from 11-228 cm2. The percentage of the total area used for providing BPI was ranging from 0.9 to 19%.

Table 2: Number of literatures showing graphs, tables and pictures

Number per literature	Graphs n (%)	Tables n (%)	Pictures n (%)
0	259 (63.8)	280(90.6)	161 (52.1)
1	21 (6.8)	22 (7.1)	87 (28.2)
2	18 (5.8)	6(1.9)	44 (14.2)
3	5(1.6)	1(0.3)	12 (3.9)
4	6 (1.9)	0	2 (0.6)
5	0	0	2(0.6)
6	0	0	1 (0.3)

Among the drugs promoted, 47.1% were fixed dose combinations (FDCs) and the remaining were single drug preparations. Among the drugs promoted for cardiovascular diseases, angiotensin receptor blockers (ARBs) were the leading group with 30% of the literatures promoting them, followed by statins (20.5%) and calcium channel blockers (18.1%). Among the ARBs, telmisartan and olmesartan were seen in most of the literatures and among calcium channel blockers cilnidipine and amlodipine were the commonly promoted drugs. Diltiazem was seen in only one literature. Beta blockers were seen in 8.1% of the literatures. Metoprolol was the most commonly promoted beta blocker followed by nebivolol and carvediolol. ACE inhibitors were also less commonly promoted (3.8%) as well as diuretics in single drug combination (1.4%). Diuretics were most often promoted as FDCs with ARBs/CCBs/Beta blockers. Nitrates being seen in 1.5% of the literatures were also less commonly promoted drugs. Antiplatelets like aspirin, clopidogrel were promoted as FDCs with statins rather than as single drug preparations. Remaining literatures were promoting vitamins (mainly methylcobalamines & folic acid claiming to be effective for hyperchomocysteinemia), coenzyme Q containing preparations (claiming to be having free radical scavenging property), L-carnitine (claiming as metabolic cardioprotector in cardiomyopathy), anticoagulants (warfarin, tirofiban), antiplatelets etc. (fig 1)

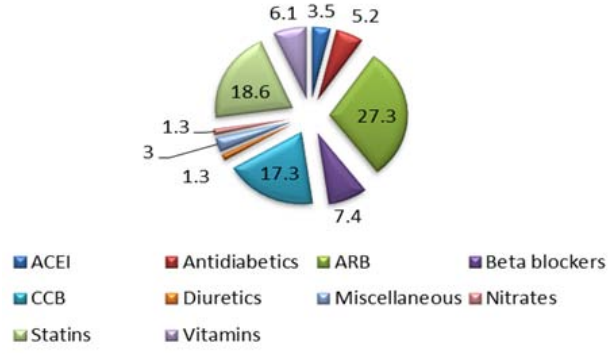

Fig. 1: Categories of drugs promoted

Claims were categorized as efficacy claims, safety claims, cost claims and convenience claims. Out of the total 231 claims seen in the promotional literature, maximum claims for efficacy (68%), followed by convenience claims (16.5%), safety claims (12.1%) and cost (3.5%) (fig 2).

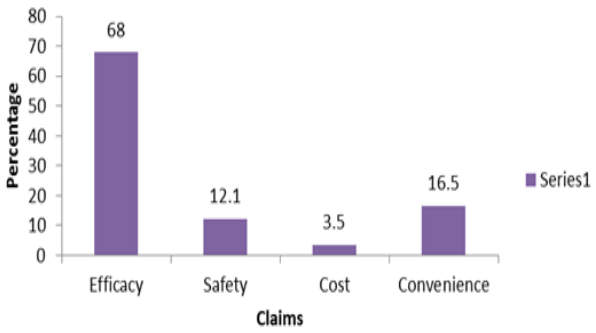

Fig. 2: Categories of claims made by drug promotional literatures

Our analysis has shown that presently distributed drug promotional literatures pertaining to drugs used in cardiovascular disorders did not adhere to the WHO criteria. Mali SN, et al [8] also reported in their study that none of the literature fulfilled all the ten WHO criteria. They found that the least presented criterion was adjuvant and less than 50 % of the brochures were satisfying only six criteria such as, brand name, INN, dosage form, uses, active ingredient and address of the manufacturer. A study done in Russia showed that 40% mentioned the generic name, 45% mentioned indication, 11% mentioned safety warnings and contraindications, 5% warned about drug interactions, and 2% provided references [9]. In contrast to these findings, our analysis showed that all the literatures mentioned generic name (INN) though in a very small font compared to the brand name.

Very few literatures (13.8%) were containing brief prescribing information (BPI), which is the vital part of the promotional literature. A study done by Mali et al also showed that only 8.8% of literatures provided the BPI [8]. Even in those literatures containing BPI, proportionate area covered by BPI was too small compared to the total area of the literature. As they are trying to accommodate all the information in a very small area, the font size becomes too small making it poorly legible. Hence, if the literature contains BPI, which is not readable, easily the whole purpose of adding this piece of information in the literature will not be served. This trend shows that pharmaceutical companies are not at all interested in providing valuable information about the drug to clinicians and their only interest is to popularize the brand.

Present analysis of drugs promoted for cardiovascular disorders showed that maximum promotion was given to Angiotensin Receptor Blockers (ARBs) followed by calcium channel blockers. The

ACE inhibitors (older group of drugs blocking renin angiotensin system) are equally efficacious like ARBs and have long standing evidence of safety and efficacy in cardiovascular disorders like congestive heart failure, hypertension, etc. The present trend of drug promotion is concentrating only on ARBs but not on ACE inhibitors without any strong rationale. Among the ARBs also, the focus is on newer drugs like olmesartan and telmisartan rather than the prototype ARB losartan. The powerful marketing of these newer drugs by pharmaceutical companies may result in the selection of a costlier new drug when the cheaper and equally efficacious older alternatives are available. Newer drugs are invariably costlier and it is inappropriate to use these costlier drugs when cheaper and effective alternatives are available. The cost of the drug is an important factor in the selection of a drug/brand especially in developing countries like India. Very few promotional literatures were given this information.

Most of the literatures were focusing on a fixed dose combination rather than single drug preparations. Most of these fixed dose combinations may not have pharmacokinetic basis and are not recommended by WHO.

The promotional brochures were full of unsubstantiated claims regarding efficacy as well as safety. Most of the claims were for efficacy and the majority of these claims are without any scientific evidence. These irrational claims may mislead the physician in the selection of appropriate medication for his patient. A study done in Pakistan showed that among the claims made by drug advertisements 32% were exaggerated claims, 21% were ambiguous, 28% were false, and 21% were controversial [2]. Our analysis also showed that most of the claims were exaggerated (i.e. When a minor advantage of a drug was unnecessarily magnified showing exaggerated applications) or without strong scientific basis.

Our analysis showed that 37.7% of the pictures presented in promotional literatures were irrelevant. These pictures occupy a major portion of the brochures, thereby reducing the area for providing essential information about the drugs. Cooper RJ, et al[10] reported that 49% percent of the glossy page area was non scientific figures/images. Purpose of presenting these attractive pictures with a brand name and exaggerated claims displayed in bold letters is to have a strong impact on physicians.

Drug promotion undoubtedly has a strong influence on the prescribing behavior of the physicians. Very few clinicians were aware that the information provided by the promotional literature is not always correct. The inaccurate and incomplete information provided by these literatures may mislead clinicians in the selection of drug therapy for their patients. The ultimate goal of medical practice is to ensure the care, cure and safety of the patients. The clinicians should be quickly able to judge the quality of a promotional literature, especially with respect to efficacy claims which often seems to be exaggerated. Though the objective of the promotional literature is to promote a product, an active approach by doctors can transform it into a useful and accurate source of information. Also, most of the busy practicing physicians feel that promotional literature is a source of education. It is very clear that pharmaceutical companies are not adhering to the norms dictated by WHO. Concerned regulatory bodies should strictly implement adherence to WHO criteria for the promotion of drugs by pharmaceutical companies.

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CONFLICT OF INTERESTS

Declared None

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