

INTERNATIONAL

Sources of information in drug advertisements: Evidence from the drug indexing journal of Bangladesh

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Abstract

Drug advertisements often lack scientific evidence to support their claims. This descriptive study was conducted to measure the sources of information in drug advertisements in Bangladesh. Advertisements containing at least one medical or pharmaceutical claim were extracted from a convenience sample of the second issue of *MediMedia Index of Medical Specialities (MIMS) Bangladesh in 2006*. Descriptive statistical analyses including frequency distribution and percentage were performed for data analysis. Of the total 112 advertisements about 82 per cent did not provide any references in support of their claims. Only 17.9 per cent did; of which 65 per cent of the references included journal articles, which was followed by "data on file" in 25 per cent of cases. Superlative claims were commonly used without any scientific evidence. The study reported that medical or pharmaceutical claims made in the drug advertisements in MIMS Bangladesh are mostly not supported by scientific evidence.

Introduction

Pharmaceutical advertisements are an important means of bringing drug information to health care professionals (1). Their primary goal is to convince clinicians to prescribe their products. These ads often cite external documents in support of their claims (2). Pharmaceutical companies worldwide are heavily involved in aggressive drug promotions through advertisements. But the scientific claims made for drugs are often inaccurate and not based on proper scientific evidences (2, 3, 4).

As with many countries worldwide, drug promotion and marketing make up a very large part of the activities of pharmaceutical companies in Bangladesh. It is generally believed that overstatements and misinformation are common promotional activities of drug companies in Bangladesh (5). In a study, drug promotion through advertisements in promotional brochures showed 50 per cent of claims were based on debatable scientific evidence, while 12 per cent were fake (6). The *MediMedia Index of Medical Specialities (MIMS) Bangladesh* is an index of important information of available drugs in Bangladesh, mostly used by physicians as a practical reference for daily prescribing. It is a widely available commercial source published two times a year by MediMedia, Singapore. Beside drug information, each issue of *MIMS Bangladesh* contains a large number of advertisements, mostly on drugs and medical devices. The extent and types of these advertisements vary

in content and size. We conducted a descriptive study to investigate the sources of drug information or claims presented in the advertisements of *MIMS Bangladesh*.

Materials and methods

We selected a convenience sample of the *MIMS Bangladesh* second issue (2006) for this descriptive study. At first, advertisements on all drugs were separated on the basis of their allocation in the pages. Advertisements containing at least one medical or pharmaceutical claim were considered for evaluation. Other pharmaceutical advertisements containing only drug and company names with no medical or pharmaceutical claims were excluded. Also, some advertisements on herbal medicines were excluded as well. The competent advertisements were analysed for the sources of information provided in support of their claims. The relevant extracted data were presented in the predesigned data forms in a personal computer. Descriptive statistical analyses were performed using Microsoft Excel 2002 on Windows XP Professional.

Results

A total of 112 advertisements were extracted from *MIMS* having some medical or pharmaceutical claims. Of these, about 82 per cent did not provide any references in support of their claims. A concise summary of the extracted advertisements is given in Table 1.

Table 1: A brief description of the advertisements

Characteristics	Number (n)	Per cent (%)
Types of advertisements		
Full page	40	35.7
Half page	25	22.3
Quarter page	47	42.0
References mentioned		
Yes	20	17.9
No	92	82.1
Main sources of information		
Journal articles	13	65.0
Data on file	5	25.0
Books	1	5.0
Other	1	5.0

Major journals used as sources of information included the *Journal of Clinical Oncology*, *New England Journal of Medicine*, *Scandinavian Journal of Gastroenterology*, *Digestion*, *Drugs* and *Journal of Antimicrobial Chemotherapy*. The only book used as a source of reference was *Davidson's Principles and Practice of Medicine* (19th edition, 2002). Information as "data on file" was used in few cases. Other source of information included one citation from a website. Most of the claims were based on safety and efficacy of drugs. Superlatives claims were found commonly used without any further scientific evidence. Commonly used adjectives were "high-quality," "unsurpassed," "unmatched," "fastest," "best," "superior," "safest," "trusted," "first-line," "powerful," "outstanding" and so on. Advertisements were usually placed strategically in the appropriate therapeutic sections.

Discussion

Our study reported a high number of advertisements with no scientific evidence to substantiate promotional claims. Journal articles were found to be most cited sources of drug information in the advertisements, which was followed by "data on file." Books and other sources are rarely used. Extreme claims were frequently used in most of the advertisements, which were not substantiated by proper scientific evidence.

In an analytical study, 62.1 per cent pharmaceutical advertisements did not cite references for their claims (7). Villanueva and colleagues showed about 44 per cent unsubstantiated claims in Spanish medical journals' advertisements (8). The most striking report of unsubstantiated pharmaceutical advertisements was found in Germany where 94 per cent of the advertising materials were reported to have no scientific evidence (9). A cross-sectional study reported the figure for the US to be 61 per cent (10). Drug advertisements in Russian medical journals showed quite a small number (2 per cent) with references (11). We also found quite a large number of advertisements in *MIMS* with no scientific basis to support their claims.

Journal articles are the major source of drug information in pharmaceutical advertisements. In an Indian study journal articles accounted for 76 per cent of the sources, whereas books and "data on file" accounted for 15 and 2 per cent respectively (7). Another similar study from Canada showed figures of 98 per cent for journal articles, 86 per cent for books, and 20 per cent for "data on file" as references (2). This study also reports journal articles as the most cited sources of drug information. In contrast to others, the use of books as references was found

insignificant in our study. We also report significant use of "data on file" information as major evidence of information. Besides unsubstantiated information, unnecessary adjectives were commonly used in the advertisements without proper scientific basis.

Limitations

The present study is associated with certain methodological limitations. Being cross-sectional in nature, the design fails to measure any concrete outcomes, or any cause and effect. The study samples do not represent the entire population because of the non-random sample selection method used.

Conclusion

Overall, drug information provided in the *MIMS* was generally well organised, but most of the advertisement claims were not supported by scientific evidence. Physicians should be careful about the credibility of the pharmaceutical and medical claims presented in these advertisements.

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