DEVIATIONS FROM ETHICAL DRUG PROMOTION IN INDIA

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Abstract

The promotion of drugs must be in compliance with the regulations and laws of the country in which they are promoted. Promotion of drugs following ethical standards is required to allow doctors to prescribe the drugs rationally and minimize the risks for patients. But in developing countries like India, doctors rely on drug promotional material for their source of information. Doctors access these promotional materials either through sales representatives or drug advertisements in medical journals. An extensive analysis was conducted of drug advertisements in medical journals in India. The claims made in the advertisements, and the extent of information given in the advertisements were compared against the WHO’s criteria for ethical drug promotion. It was found that the majority of the advertisements published do not comply with WHO’s ethical criteria as most of them lacked one or another required drug information. The findings of the study lead to suggestions of measures that can be taken by Indian government organizations to ensure ethical promotion of drugs.
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Introduction

Drug promotion involves all the information and persuasive activities of the manufacturers and distributors, mainly intended for the supply, and purchase of drugs either to patients or health care professionals. The main purpose of setting ethical standards is to make the promotional materials more reliable, accurate, and up-to-date and to minimize the misuse of drugs\textsuperscript{1,2}.

According to the WHO Expert Committee, advertisements should contain the name of the active ingredient, brand name, content of active ingredient per dosage form or regimen, other ingredients that may cause a problem, therapeutic uses, dosage form, side effects, precautions, contraindications and drug interactions\textsuperscript{3}.

WHO’s ethical criteria also prohibit offering gifts and financial incentives to doctors and the use of scientific and educational activities for promotional purposes\textsuperscript{1}.

Ethical criteria for the promotion of medicinal products may differ from country to country. Acceptability depends on the political, economic, social, cultural, educational, scientific, and technical situations, therapeutic traditions, and development level of the health care system of a country. Also, the promotion of drugs must be in compliance with the regulations of the country following the ethical guidelines\textsuperscript{3}.

Some countries require the drug promotional materials to contain complete information while other countries require only a brief summary of the drug\textsuperscript{1}. However, the basic, ethical principle underlying drug promotion is the same in all countries - the promotional material must be reliable and accurate. It should not disguise the original nature of the drug\textsuperscript{3}.
Drug advertisements in India have been seen promoting therapeutic uses and exaggerating the positive effects of the drug to increase sales. They have been seen to downplay the risks and to omit critical information for the safe prescription of the drug. Physicians relying on such advertisements may prescribe inappropriate drugs to their patients^2. 

Hence, the extent of deviations in promoting drugs to healthcare professionals, and patients, and the impact of these drug promotions on the prescribing behavior of physicians, is of significant concern.
Background

Drug advertisements published in medical journals and promotional materials from sales representatives should contain the drug information as recommended by WHO. In India, however, most of the drug promotional materials do not have all the suggested information. Promotional materials for drugs have been seen with therapeutic uses but not information on drug interactions, contraindications, and side effects.

Sales representatives often visit physicians with sample drugs, token gifts, drug brochures, and reminder advertisements that give the name of a drug, but not the drug’s uses.

Samples of older drugs are given for free, in large quantities, to doctors in India. As there is no regulation on the distribution of samples, this distribution of drugs and promotional materials by the sales representatives in the name of drug promotion may influence the prescribing behavior of physicians.

Forms of Drug Promotion

Promotion of drugs may involve visits to doctors by medical representatives promoting their drugs. It may also be through magazines, medical journals, newspapers, radio ads, and Direct-to-Consumer Advertisements by pharmaceutical companies.

DTCA. Direct-to-Consumer Advertisements target the public directly through broadcast and print advertisements.

There are mixed opinions on Direct-to-Consumer Advertisements, as some argue the need for the public to know about the drug’s properties. The knowledge would allow an earlier diagnosis of any diseases, and aid in getting better treatment. Saskatoon urologist Peter Barret
said that knowledge about drugs may intervene with the treatment, and patients may want the drugs of their own choice. It may be a burden for the doctors to explain why the drug prescribed to their patients is more appropriate. However, many agree on regulatory approval of the ads before they are aired or printed.7, 8

In recent times, there is an increased health concern among the public, aided in part by the wealth of information available on the Internet. Hence, people are seeking more drug information9.

The marketing of drugs to consumers is done mainly through television, newspapers, magazines, and the radio. Today, various pharmaceutical companies are promoting their drugs through digital media, including web-sites, online display advertising, search engine marketing, social media campaigns, and mobile advertising.7

Direct–To-Consumer Advertisements are banned in India on Schedule H and Schedule X drugs. Schedule H drugs are sold only with a prescription from a registered medical practitioner10. Schedule X drugs are narcotic and psychotropic drugs which cause delusion, hallucination, psychosis, sedation, and hypnosis.11

But due to the accessibility of Internet, some Schedule H drugs are being marketed directly to consumers in India. The drugs seen commonly in DTC advertisements include antacids, antiflatulents, cold rubs, analgesic balms, creams, vitamins/tonics/health supplements, medicated skin treatments, analgesic/cold tablets, antiseptic creams/ liquids, and glucose powders.12

**Printed forms of advertisements.** For a general practitioner, the most visible of all the sources of information are printed advertisements. The commonly seen ways of printed
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advertisements include direct mail advertisements which are booklets or leaflets that advertise a branded drug, handouts by medical representatives during visits to doctors, advertisements in medical journals, newspapers and magazines targeting doctors.¹³

**Journal advertisements.** Doctors often misinterpret the impact of journal advertisements, on their prescribing behaviors. However, the more a drug is seen in journals, the more it is recalled by doctors and they prescribe it more often.¹⁴ The advertisements in journals are visually appealing, and the inclusion of references increases a drug’s credibility with doctors. Hence, most of the pharmaceutical companies include references in their journal advertisements.¹⁵

In 1996, a study on the advertisements published in the Indian edition of BMJ was conducted by B. Gitanjali, et al.¹⁶ The local edition of BMJ published in India had been available since 1986. The 116 advertisements published in five issues of BMJ India from August to December 1992 were compared to 87 advertisements published in four issues of the British edition in March 1993. The advertisements were studied for indications for treatment, dosage, precautions, contraindications, adverse effects, prices of the drugs, the postal address of the drug company, and whether or not the claims made in the advertisements were referenced.¹⁶

It was found that many drug advertisements published in the Indian edition made false claims and did not include all the drug information as proposed by WHO. The generic name was absent in 19 (16%) of the Indian advertisements and none of the British advertisements; scientific information was inadequate in 23 (20%) of Indian and in three (3%) of British advertisements. An address for further information was provided in 76 (66%) Indian and 80 (92%) British advertisements. The price was mentioned in 76 (66%) Indian and 84 (97%)
British advertisements. In addition, ten randomly selected advertisements published in the Indian edition were sent to a clinical pharmacologist from Britain, a member of the medical therapeutic committee in Victoria, Australia, and a pharmaceutical advisor to the International Organization of Consumers Unions (now Consumer International) in Malaysia. They found that all the advertisements were misleading or made unsubstantiated claims. As per B. Gitanjali, et al, for its local editions, BMJ should have stringent codes for advertising and follow WHO’s ethical criteria.16

**Regulatory Agencies for Drug Promotion in India**

Drug promotion in India is regulated primarily through voluntary codes by industry and medical organizations. When making these codes the industry associations did not include certain aspects of drug promotion or made them vague, allowing wide latitude for drug promotion. They focused on increasing the sales and profits for the industry. As a result voluntary codes lack transparency and omit large areas of drug promotion.17

Given the huge number of products are available on the market, selection of the right drug and its proper use is an increasingly difficult task for health care professionals. The availability of scientific therapeutic information is essential for drugs to be prescribed rationally. But the misleading information available outweighs scientific therapeutic information. Hence the regulatory agencies need to ensure that all health professionals have access to appropriate information.6

Medical representatives through their weekly or monthly visits distribute samples and attractive eye-catching brochures to physicians. Pharmaceutical companies claim their new formulations to be superior to existing, effective and inexpensive products with which
Deviations from ethical drug promotion are familiar. This motivates unwary doctors prescribe new products without verifying whether the claims made are justified. The use of ineffective, poor quality, harmful medicines may result in therapeutic failure, exacerbation of the disease, resistance to medicines and sometimes even death. Misuse may result in loss of confidence in health systems, health professionals, and pharmaceutical manufacturers. Hence governments need to establish strong regulatory authorities to ensure that the drug promotion is regulated effectively.

IFPMA (International Federation of Pharmaceutical Manufacturers & Associations). The IFPMA code of pharmaceutical marketing practices, written in 1981, is a self-regulatory code for ethical conduct and promotion. It was established before the WHO’s ethical criteria on medicinal drug promotion which was written in 1988. This code includes standards for the ethical promotion of pharmaceutical products to health care professionals and other stakeholders, such as medical institutions and patient organizations. The code aims at the provision of scientific and educational information about products to health care professionals, and encourages appropriate use. The IFPMA code of 2007 placed more restrictions on gifts offered by medical representatives, and the sponsorship by companies for health care professionals to attend events. This code applies to all drugs. IFPMA regularly monitors compliance of companies by the Code Compliance Network (CCN). The CCN is comprised of individuals from the member companies and associations experienced in the application of industry codes. The experts from CCN also exchange best practices in code compliance and implementation. They discuss advancements and drawbacks in drug promotion strategies.

According to the IFPMA Code of Practice:
Pharmaceutical companies must provide accurate, balanced, and scientifically valid data on products. Promotion must be ethical, accurate, balanced and must not be misleading.

Information in promotional materials must support proper assessment of the risks and benefits of the product and its appropriate use.

Pharmaceutical companies’ interactions with stakeholders must at all times be ethical, appropriate and professional. Nothing should be offered or provided by a company in a manner or on conditions that would have an inappropriate influence.

**OPPI.** Organization of Pharmaceutical Producers of India established in 1965, is an association of research and innovation driven pharmaceutical companies in India. The member companies are committed to the ethical standards set out in this code. It plays a major role in guiding drug promotional activities by pharmaceutical companies in India. The OPPI is a signatory to the IFPMA code. The OPPI has adapted the IFPMA code to provide local guidelines.

The OPPI code includes standards for ethical promotion of pharmaceutical products to healthcare professionals and helps ensure that member companies’ interactions with healthcare professionals and other stakeholders, such as medical institutions and patient organizations, are appropriate and perceived as such. OPPI member companies must comply directly with applicable national codes as, and when, they come into existence.

According to OPPI, the promotion of drugs should be transparent, the interaction of companies with healthcare professionals should be beneficial to patients and it should encourage
the appropriate use of pharmaceutical products. The promotional materials should be accurate and not misleading; the information should be consistent across labeling, packaging, leaflets, datasheets, and all promotional material. Promotion should be capable of substantiation either by reference to the approved labeling or by scientific evidence. Such data should be made available upon request to healthcare professionals.¹⁹

**WHO.** The World Health Organization issued ethical criteria on medicinal drug promotion in 1988. In accordance to the ethical criteria the advertisements should contain:

- The name of the active ingredient(s) using either international nonproprietary names (INN) or the approved generic name of the drug;
- The brand name;
- Content of active ingredient(s) per dosage form or regimen;
- Name of other ingredients known to cause problems;
- Approved therapeutic uses;
- Dosage form or regimen;
- Side-effects and major adverse drug reactions;
- Precautions, contraindications and warnings;
- Major interactions;
- Name and address of manufacturer or distributor;
- Reference to scientific literature as appropriate.¹

**Drugs and Magic Remedies Act.** In India, the Drugs and Magic Remedies Act of 1954 (objectionable advertisements) plays a major role in curbing the advertisements that mislead the true properties of the drug. The Act prohibits the advertisement of certain drugs for:

- prevention of conception,
- maintenance or improvement of the capacity of human beings for sexual pleasure,
• correction of menstrual disorders in women.\textsuperscript{20}

**Central Ethical Committee.** To tackle the unethical promotion of drugs a Central Ethical Committee was formed. The Central Ethical Committee constitutes an Expert Committee at central level in New Delhi. It collects and reviews the complaints and other information related to misleading and confusing advertisements received from professionals and the public. The information is then sent to the various state drug control authorities. The drug control authorities through the Drugs and Magical Remedies Act take necessary legal action on unethical advertisements.\textsuperscript{6}

The Central Ethical Committee compiles and publishes data on unethical practices and discrepancies in promotional material. It disseminates the information to health professionals. It reports on unethical promotion to the FDA and request remedial action.\textsuperscript{6}

**Process of Banning drugs in India.** The Drugs Technical Advisory Board (DTAB) is the highest decision-making body under the Union health ministry on technical matters. It is the final authority on imposing a ban on drug. The Drug Technical Advisory Board, through its executive committee, reviews a drug and imposes a ban on a drug if the drug has harmful effects. The Deputy Drug Controller General of India (DCGI) notifies all state drug authorities, chemist associations and manufacturers about the ban on the drug.\textsuperscript{22}

DCGI also informs Indian Medical Association (IMA) about the ban order. It publishes the names of banned drugs in the IMA newsletter. The IMA newsletter has wide reach and is fast in disseminating the information to state branches from where it is accessible to doctors. These banned drugs are also published in the British Medical Journal and the New England Journal of medicine.\textsuperscript{22}
Methods

A search for drug advertisements in Indian pharmaceutical journals was done in Gandhi Medical hospital in Hyderabad, India. The medical journals that were published in 2013 that were available in the library were chosen. Thirteen journals were available in the library. Among them four journals that do not have any drug advertisements were excluded from the study. From the remaining nine journals the latest issue of the journal that was available on the date of the library visit was reviewed.

Only peer reviewed journals and those listed in Pubmed were considered for the study. Advertisements pertaining to medical equipment and surgical appliances were excluded.

The pharmaceutical journals studied included:

1) Indian Journal of pharmaceutical sciences, Year 2013 (Sep-Oct), Volume 75, Issue 5
   Readership: Pharmacists, pharmacologists

2) Indian Journal of Public health, Year 2013 (Oct-Dec), Volume 57, Issue 4
   Readership: Public health physicians, social workers, paramedical personnel, nurses, policy makers

3) Indian Journal of dermatology, venereology, and leprology , Year 2013 (May-June), Volume 79, Issue 3
   Readership: Dermatologist, cosmetologists, venereologists, leprologists, trichologists, pediatricians and internists

4) Indian Pediatrics, Year 2013 (December), Volume 50, Issue 12
   Readership: Pediatricians

5) Indian Journal of Ophthalmology, Year 2013 (March), Volume 61, Issue 3
   Readership: Ophthalmologist, optometrists

6) Indian Journal of Surgery, Year 2013 (Oct), Volume 75, Issue 5
   Readership: Surgeons
The World Health Organization proposed criteria for ethical standards in drug advertising. It has been 21 years since the WHO Expert Committee first published its Ethical Criteria for Medicinal Drug Promotion. These were proposed to form the basis for model national legislation to enable governments to improve national regulatory standards for pharmaceutical promotion. They applied to prescription drugs, over-the-counter drugs, and any other product promoted as medicine. The criteria could be used by government, the pharmaceutical industry, the advertising industry and people of all walks of life\(^1\). Hence the criteria for drug promotion by WHO is taken as the standard and each of the advertisements were analyzed to check if it had all the drug information per the criteria.

In accordance with the WHO Expert Committee, drug advertisements should usually contain:

1) Legible text
2) Brand name
3) Active ingredients
4) Therapeutic uses
5) Dosage Form
6) Adverse Drug Reactions or Side Effects
7) Precautions, warnings and contra-indications
8) Drug interactions
9) Address of the manufacturer

Of the 104 advertisements, the drugs that belong to Schedule H were identified and analyzed separately. Schedule H drugs are sold only with a prescription from a registered medical practitioner. These drugs are restricted from self medication as they might have varied effects on public safety. Hence the advertisements pertaining to these drugs are analyzed separately.
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Results

The 104 advertisements that were found in the nine pharmaceutical journals were compared to the WHO’s criteria for drug advertisements.

The findings from the 104 advertisements are summarized in Table 1. The Appendix contains images of all these advertisements.

Table 1. Content of Selected Advertisements Compared to WHO Guidelines

<table>
<thead>
<tr>
<th>S.n o</th>
<th>D R U G</th>
<th>Generic Name</th>
<th>Prescription Only Drugs</th>
<th>Legible Text</th>
<th>Brand Name</th>
<th>Active Ingredients</th>
<th>Therapeutic Uses</th>
<th>Dosage Form</th>
<th>Adverse Drug Reactions or Side Effects</th>
<th>Precautions, warnings, contraindications</th>
<th>Drug interactions</th>
<th>Address of the manufacturer</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Tusq-dx</td>
<td>Chlorpheniramine maleate</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
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<td></td>
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<tr>
<td>2</td>
<td>Nupod</td>
<td>Cefpodoxime</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
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<tr>
<td>3</td>
<td>Tonact</td>
<td>Atorvastatin</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
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<tr>
<td></td>
<td>Tonact-TG</td>
<td>Atorvastatin+Fenofibrate</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
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<td>4</td>
<td>Harty</td>
<td>Docosahexaenoic acid</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
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<tr>
<td>5</td>
<td>Clopitab</td>
<td>Clopidogrel</td>
<td>X</td>
<td>X</td>
<td>X</td>
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<td>X</td>
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<td>6</td>
<td>Ramistar</td>
<td>Ramipril</td>
<td>X</td>
<td>X</td>
<td>X</td>
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<td>X</td>
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<tr>
<td>7</td>
<td>Pinom</td>
<td>Olmesartan</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
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<tr>
<td>8</td>
<td>Ascoril</td>
<td>Terbutaline</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
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<tr>
<td>9</td>
<td>Reswas</td>
<td>Levodropropizine</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
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<tr>
<td>10</td>
<td>Zycold</td>
<td>Ambroxol</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
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<td>X</td>
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<tr>
<td>11</td>
<td>Sylkam</td>
<td>Eizolam</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
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<td>12</td>
<td>Healsat+</td>
<td>Diclofenac</td>
<td>X</td>
<td>X</td>
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<td>X</td>
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<tr>
<td>S. No</td>
<td>Drug</td>
<td>Generic Name</td>
<td>Prescription Only Drugs</td>
<td>Legible Text</td>
<td>Brand Name</td>
<td>Active Ingredients</td>
<td>Therapeutic Uses</td>
<td>Dosage Form</td>
<td>Adverse Drug Reactions or Side Effects</td>
<td>Precautions, warnings, contraindications</td>
<td>Drug Interactions</td>
<td>Address of the manufacturer</td>
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<tr>
<td>13</td>
<td>Zerodol s/ Zerodol sp</td>
<td>Aceclofenac, Serratoplagase, Paracetamol</td>
<td>X X X X X</td>
<td>X</td>
<td></td>
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<td>14</td>
<td>Tusq - X</td>
<td>Terbutaline</td>
<td>X X X X X</td>
<td>X</td>
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<td></td>
<td>X</td>
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<tr>
<td>15</td>
<td>Supamove</td>
<td>Diclofenac</td>
<td>X X X X X</td>
<td>X</td>
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<td>16</td>
<td>Havmax-forte</td>
<td></td>
<td>X X X X</td>
<td>X</td>
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<tr>
<td>17</td>
<td>Dailyshine</td>
<td></td>
<td>X X</td>
<td>X X</td>
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<tr>
<td>18</td>
<td>Lornid-IP</td>
<td></td>
<td>X X X X X</td>
<td>X</td>
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<td></td>
<td>X</td>
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<tr>
<td>19</td>
<td>Tatkaal</td>
<td></td>
<td>X X X X</td>
<td>X</td>
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<tr>
<td>20</td>
<td>B-g-prot l</td>
<td></td>
<td>X X X X</td>
<td>X</td>
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<tr>
<td>21</td>
<td>Mecoblend</td>
<td>Folic Acid (Vit B9)</td>
<td>X X X X</td>
<td>X</td>
<td></td>
<td></td>
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<td>B-colen</td>
<td>Biotin</td>
<td>X X</td>
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<td>X</td>
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<td>23</td>
<td>Orovit active</td>
<td>Rutin</td>
<td>X X X</td>
<td>X</td>
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</tr>
<tr>
<td>24</td>
<td>Zerodol-p</td>
<td>Aceclofenac + Paracetamol</td>
<td>X X X X</td>
<td>X</td>
<td></td>
<td></td>
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<tr>
<td>25</td>
<td>Folera-MD</td>
<td>Methylcobalamin</td>
<td>X X X X</td>
<td>X</td>
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<tr>
<td>26</td>
<td>Preglac-kit</td>
<td></td>
<td>X X X X</td>
<td>X</td>
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</tr>
<tr>
<td>27</td>
<td>Tonabolin-XT</td>
<td>Ferrous Ascorbate</td>
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<td></td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>88</td>
<td>Divigel</td>
<td>Estradiol</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>89</td>
<td>Alprocontin</td>
<td>Alprazolam</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>90</td>
<td>Zolam</td>
<td>Alprazolam</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>91</td>
<td>Fenaplus</td>
<td>Diclofenac + paracetamol</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>92</td>
<td>Metolaz</td>
<td>Metolazine</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>93</td>
<td>Genevac – B</td>
<td>Recombinant hepatitis b vaccine</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>94</td>
<td>Calcirol</td>
<td>Cholecalciferol</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>95</td>
<td>Relaxyl</td>
<td>Mephenesin</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>96</td>
<td>Rabipur</td>
<td>Rabies antiserum</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>97</td>
<td>Sc c - 4</td>
<td></td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table 1. The 104 drug advertisements and generic names and the WHO’s ethical criteria seen in each of the advertisement. An X in a box indicates that the advertisement contained the suggested criteria. The drugs that belong to Schedule K were also indicated by X in the column labeling “Prescription Only Drugs”. Copies of the advertisements may be found in the Appendix by the S.no.

The advertisements in Table 1 were summarized by compliance with WHO’s ethical criteria. The number of all drugs satisfying each of the ethical criteria as well as the number of prescription only drugs satisfying the criteria are provided in Table 2.

Table 2: Advertisements Satisfying Each of the WHO Ethical Criteria.

<table>
<thead>
<tr>
<th>WHO Criteria Considered for the Study</th>
<th>No of Ads Satisfying the Criteria in all - 104 (% of All Ads)</th>
<th>Prescription Only Drugs- 71 (% of All Ads)</th>
<th>Others- 33(% of All Ads)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Legible text</td>
<td>93 (90%)</td>
<td>60 (84%)</td>
<td>33 (100%)</td>
</tr>
<tr>
<td>Brand name</td>
<td>104 (100%)</td>
<td>71 (100%)</td>
<td>33 (100%)</td>
</tr>
<tr>
<td>Active ingredients</td>
<td>65 (62%)</td>
<td>47 (66%)</td>
<td>18 (54%)</td>
</tr>
<tr>
<td>Therapeutic uses</td>
<td>102 (98%)</td>
<td>69(97%)</td>
<td>33 (100%)</td>
</tr>
<tr>
<td>Dosage form</td>
<td>20 (19%)</td>
<td>14 (20%)</td>
<td>6 (18%)</td>
</tr>
<tr>
<td>Adverse drug reactions or side effects,</td>
<td>12 (11%)</td>
<td>12 (17%)</td>
<td>0 (0%)</td>
</tr>
</tbody>
</table>
Table 2. The number and percentages of drug advertisements satisfying each of the WHO criteria. The advertisements and their percentages were also presented for prescription only drugs and others.

| Precautions, warnings, contra-indications | 12 (11%) | 12 (17%) | 0 (0%) |
| Drug interactions                        | 8 (7%)   | 8 (11%)  | 0 (0%) |
| Address of the manufacturer              | 55 (52%) | 36 (51%) | 19 (57%) |

Among the advertisements presented in Table 1 the drug advertisements on Relaxyl gel, Zerodol p, Nacnano, Grilinctus were found twice that is in two different journals. Hence only one advertisement per drug (Relaxyl gel, Zerodol p, Nacnano, Grilinctus) was considered for the study and listed in Table 1.

Among the drug advertisements studied, all of the 104 drug ads possessed brand name. Only 19% of them possess drug dosage information, 11% possess precautions/contraindications, and 11% of the ads possess adverse effects. In approximatley 52% of the drug ads, the pharmaceutical company’s address was seen (Table 2).

In the analysis of drug advertisements based on prescription only drugs and others, legible text was found in 84% of drugs in prescription only drugs and 100% in others. Side effects/Adverse drug reactions and contraindications were found in 17% of the advertisements in prescription only drugs and 0% in others. Drug interactions were found in 11% of prescription only drugs and 0% in others.

In the advertisements studied, a few included claims such as “superior efficacy”, “proven to be safe”, “first time in India”, “complete relief”, “free from side effects”, “pure”, “sure bet”, and “widely prescribed brand” without supporting evidence. The advertisements with such claims are listed in Table 3.
Table 3: Advertisements with Misleading Claims

<table>
<thead>
<tr>
<th>Drug</th>
<th>Claims Made in the Advertisement</th>
<th>Indications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tusq – dx</td>
<td>Total cough relief</td>
<td>For symptomatic relief from dry cough&lt;sup&gt;26&lt;/sup&gt;</td>
</tr>
<tr>
<td>Zerodol</td>
<td>Strikes out pain and traumatic swelling</td>
<td>Pain and swelling&lt;sup&gt;28&lt;/sup&gt;</td>
</tr>
<tr>
<td>Zerodol – p</td>
<td>Extra speed and power</td>
<td>Head ache, pain and fever&lt;sup&gt;29&lt;/sup&gt;</td>
</tr>
<tr>
<td>Tusq – x</td>
<td>The ideal expectorant</td>
<td>Bronchodilation, asthma&lt;sup&gt;27&lt;/sup&gt;</td>
</tr>
<tr>
<td>Supamove cream</td>
<td>First time in India a therapeutic breakthrough – osteoarthritis</td>
<td>Muscles and joint pains, Rheumatoid Arthritis, tendonitis/Trauma Osteoarthritis&lt;sup&gt;27&lt;/sup&gt;</td>
</tr>
<tr>
<td>Tatkaal</td>
<td>World's only Side effect free contraceptive pill</td>
<td>Contraceptive pill&lt;sup&gt;26&lt;/sup&gt;</td>
</tr>
<tr>
<td>Wakfree</td>
<td>Rebuilds cartilage, Restores elasticity of cartilage, Relieves pain, No pain just walk</td>
<td>Osteoarthritis&lt;sup&gt;29&lt;/sup&gt;</td>
</tr>
<tr>
<td>B-colen</td>
<td>Family is now complete</td>
<td>Rapid weight loss, malnutrition-vitamin b supplement&lt;sup&gt;26&lt;/sup&gt;</td>
</tr>
<tr>
<td>Orovit active</td>
<td>Ideal choice for Pcos management</td>
<td>Pcos&lt;sup&gt;27&lt;/sup&gt;</td>
</tr>
<tr>
<td>B-protin</td>
<td>Complete nutrition that tastes best</td>
<td></td>
</tr>
<tr>
<td>D-protin</td>
<td>For diet compromised diabetic patients</td>
<td></td>
</tr>
<tr>
<td>Pro-pl</td>
<td>Comprehensive nutrition for healthy mother and healthy baby</td>
<td>Pregnancy and lactation&lt;sup&gt;27&lt;/sup&gt;</td>
</tr>
<tr>
<td>Clenol-LB</td>
<td>Put full stop to vulvo vaginal infections for the first time in India cleno-lb</td>
<td></td>
</tr>
<tr>
<td>Sensodent kf</td>
<td>Widely prescribed brand by dentists, extra foaming</td>
<td>Dental caries prophylaxis, hypersensitive teeth&lt;sup&gt;25&lt;/sup&gt;</td>
</tr>
<tr>
<td>Hexidine</td>
<td>Gingivitis, oral hygiene, tonsilitis, sore throat, Pharyngitis, icu patients</td>
<td>Gingivitis, cleansing skin and wound areas&lt;sup&gt;28&lt;/sup&gt;</td>
</tr>
<tr>
<td>Xyzal</td>
<td>Most prescribed anti histamine in chronic urticaria</td>
<td></td>
</tr>
<tr>
<td>Dermogem</td>
<td>A legend gateway to restore skin vitality</td>
<td></td>
</tr>
<tr>
<td>Stator</td>
<td>Statin adds 2 years to life</td>
<td>High cholesterol&lt;sup&gt;27&lt;/sup&gt;</td>
</tr>
<tr>
<td>Solvincold</td>
<td>Cold, cough and fever for young and old</td>
<td>Cold in adults&lt;sup&gt;29&lt;/sup&gt;</td>
</tr>
<tr>
<td>Solvin cough</td>
<td>Dry cough in adults and children</td>
<td></td>
</tr>
<tr>
<td>Sorbitrate</td>
<td>For anginaprophylaxis, trusted therapy for more than 5 decades</td>
<td>Angina&lt;sup&gt;28&lt;/sup&gt;</td>
</tr>
<tr>
<td>Tribet</td>
<td>Sure bet for better control, efficacy similar to insulin+metformin</td>
<td></td>
</tr>
<tr>
<td>Drug</td>
<td>Claims Made in the Advertisement</td>
<td>Indications</td>
</tr>
<tr>
<td>-------------</td>
<td>---------------------------------------------------------------------------------------------------</td>
<td>-------------------------------------------------</td>
</tr>
<tr>
<td>Emtax-az</td>
<td>Combination is more effective than cefixime or azithromycin alone</td>
<td></td>
</tr>
<tr>
<td>Zathrin – Azithromycin</td>
<td>Purity redefines cure, superior clinical efficacy, simplified dose, best quality azithromycin with widest dosage range.</td>
<td>Pharyngitis, tonsilitis, sinusitis²⁹</td>
</tr>
<tr>
<td>Hunt red</td>
<td>Gold standard iron therapy with added advantage, dysfunctional uterine bleeding, post hysterectomy</td>
<td>Anemic, vitamin deficiency²⁹</td>
</tr>
<tr>
<td>Pinom</td>
<td>Achieve rapid blood pressure goals</td>
<td>Low blood pressure²⁶</td>
</tr>
<tr>
<td>Clopitab</td>
<td>Lifeline uninterrupted</td>
<td></td>
</tr>
<tr>
<td>Harty</td>
<td>Aao fit rahe (Stay fit)</td>
<td></td>
</tr>
<tr>
<td>Liv.52 hb</td>
<td>Efficacy comparable to interferons &amp; antivirals</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Well tolerated and safe compared with interferons &amp; antivirals</td>
<td></td>
</tr>
<tr>
<td></td>
<td>-free from harmful side effects such as Mone marrow depression, pancreatitis &amp; peripheral neuropathies, neurovegetative syndrome.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Devoid of toxicity following acute and repeated administration.</td>
<td></td>
</tr>
<tr>
<td>Nac nano</td>
<td>India's 1st diclofenac gel with nano technology</td>
<td></td>
</tr>
<tr>
<td>Systaflam gel</td>
<td>Better patient compliance with bigger benefits</td>
<td>Topical anti-inflammatory and analgesic.²⁵</td>
</tr>
<tr>
<td>Systaflam-MR capsules</td>
<td>Superior protection</td>
<td>Anti inflammatory²⁶</td>
</tr>
<tr>
<td>Oscicare</td>
<td>Stimulates cartilage regeneration, stops cartilage degeneration</td>
<td>Osteoarthritis, rheumatoid arthritis²⁶</td>
</tr>
<tr>
<td>Omilcal forte</td>
<td>Optimum ratio of ca &amp; P</td>
<td></td>
</tr>
<tr>
<td>Relaxyl</td>
<td>Complete relief from low back pain</td>
<td>Low back pain²⁹</td>
</tr>
<tr>
<td>Newtel</td>
<td>Essential hypertension, hypertension with diabetes, diabetic nephropathy, hypertension with LVH</td>
<td>Hypertension²⁵</td>
</tr>
<tr>
<td>Amcard</td>
<td>First Indian brand of amlodipine, cardiac care on merit</td>
<td>Angina pectoris, Hypertension mild/moderate, Prinzmetal angina²⁵</td>
</tr>
<tr>
<td>Cymet plus</td>
<td>For effective 24hr BP control</td>
<td></td>
</tr>
<tr>
<td>Strea</td>
<td>Under eye problems could be a nightmarish experience for your patients</td>
<td></td>
</tr>
<tr>
<td>Zimivir</td>
<td>High bioavailability &amp; convenient dosing for Herpes</td>
<td>Herpes²⁶</td>
</tr>
<tr>
<td>Triglow cream</td>
<td>First time in India triple combination with microsphere</td>
<td></td>
</tr>
<tr>
<td>Melnora</td>
<td>Reverses gray hair</td>
<td></td>
</tr>
<tr>
<td>Drug</td>
<td>Claims Made in the Advertisement</td>
<td>Indications</td>
</tr>
<tr>
<td>-------------</td>
<td>-------------------------------------------------------------------------------------------------</td>
<td>-----------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Bontress</td>
<td>Stimulates hair growth, prevents hair loss</td>
<td></td>
</tr>
<tr>
<td>Atopiclair</td>
<td>Clinically proven to be safe and effective in adults, children and infants</td>
<td></td>
</tr>
<tr>
<td>Follihair</td>
<td>Stop hair fall, promote hair growth, increase hair density</td>
<td></td>
</tr>
<tr>
<td>Divigel</td>
<td>The only thing you will see is the results</td>
<td></td>
</tr>
<tr>
<td>Alprocontin</td>
<td>Consistent performance, simplified OD treatment, low abuse potential, lower inter dose anxiety. Smooth &amp; consistent anxiolytic effect.</td>
<td></td>
</tr>
<tr>
<td>Zolam</td>
<td>Soothes the restive mind round the clock.</td>
<td></td>
</tr>
<tr>
<td>Fenaplus</td>
<td>Powerful, yet safer.</td>
<td></td>
</tr>
<tr>
<td>Metolaz</td>
<td>Significantly reduces both systolic and diastolic BP. Works even when GFR is low. For the first time in India a versatile antihypertensive diuretic</td>
<td></td>
</tr>
<tr>
<td>Genevac-b</td>
<td>Proved superior efficacy, the name you can trust</td>
<td></td>
</tr>
<tr>
<td>Calcirol</td>
<td>India's 1st vit d3, 100 million patients are benefitted with calcirol, so rich in vit D3 it’s like the second sun</td>
<td></td>
</tr>
<tr>
<td>Rabipur</td>
<td>Pure, powerful protection</td>
<td></td>
</tr>
<tr>
<td>Scc4+ pouch</td>
<td>Simplest way to treat TB 99.6% sputum conversion rate in 60 days</td>
<td></td>
</tr>
<tr>
<td>Stemact</td>
<td>Protection that is proven</td>
<td></td>
</tr>
<tr>
<td>Redement</td>
<td>Experiencing 30's in 60 s</td>
<td></td>
</tr>
</tbody>
</table>

Table 3. Drug advertisements that were observed with exaggerated or false claims without supportive references.
Discussion

Any advertisements with incomplete or misleading information may influence the prescribing behavior of the doctor and pose a risk to patients.

In the above analysis, none of 104 drug advertisements complied with the WHO’s ethical standard as they lack one or more required information. Only 11% of the advertisements included adverse events and side effects (Table 2). These findings indicate that pharmaceutical companies are not publishing possible adverse events of drugs.

Very few of the reviewed advertisements (12) had precautions, warnings, and contraindications. Only eight advertisements were seen publishing the drug interactions (see Table 2). Thus, physicians who rely on drug advertisements in medical journals may prescribe such drugs without indicating precautions and warnings to their patients. This may be of serious concern as patients may take the drug lacking required information.

About 19% of the advertisements did not contain dosage information in the ads which may lead to inappropriate drug usage. Active ingredients of the drugs were seen in only 62% of the advertisements (Table 2). The other advertisements did not have active ingredients mentioned; thus, the doctors were provided with insufficient information on the drug’s contents.

The drug advertisements were analyzed based on the drugs that are available only on prescription (Schedule H) and others that are not part of Schedule H as they might have varied effects on public safety. Of the 104 drug advertisements 71 were found to be available only on prescription (Schedule H) and 33 were not Schedule H drugs.
Little difference was found in the percentage of advertisements with dosage form, active ingredients, and therapeutic uses were found in prescription only drugs and others. But the drug advertisements that are not part of Schedule H did not have contraindications/precautions/drug interactions/side effects. Hence the drugs that are not prescription only drugs did not have all the information as proposed by WHO.

In the advertisements listed in Table 3, claims such as superior protection, complete relief, free from side effects, pure, extra power, most trusted, etc., are made without supporting references. Claims on safety include free from side effects, safer, clinically proven to be safe were made without proper scientific evidence. This may influence the treatment choices by physicians. The claims pertaining to efficacy include proved superior efficacy, 99.6% of sputum conversion (SCC+ pouch), powerful, protection that was proven. Thus, a few of the advertisements were seen with exaggerated claims and a few others are with false claims.

The misleading advertisements are seen in the form of an expansion of indications or an exaggeration of efficacy and also seen downplaying the seriousness or the incidence of adverse reactions. Such misleading information creates a wrong perception of the efficacy and safety of products among prescribers and consumers.

The drug promotional material form one of the important sources of information for physicians. One of the reasons may be the lack of time to critically appraise the advertised drug. Physicians may prescribe the drug when influenced by the misleading or false claims made in the advertisement. Therefore, physicians should not completely rely on promotional literature as a source of drug information.
The International Federation of Pharmaceutical Manufacturers Association adopted a revised version of IFPMA Code of Practice in 1994 on ethical drug marketing. The pharmaceutical firms marketing drugs in developed countries generally seem to be following the guidelines. But the same drugs were marketed for other indications in India\textsuperscript{23}. Therefore pharmaceutical companies need to take initiatives to regulate the unethical drug promotional practices while marketing the drugs in India.

Health care providers need to be informed by regulatory authorities, and urged to report any misleading drug advertisements as in FDA’s BAD AD program. In FDA’s program, health care professionals are asked to recognize any misleading and illegal information in drug advertisements and report them to the FDA. The FDA then evaluates all the reports, and if any of the advertisements are seen violating the regulations, the FDA will take action to stop the misleading drug promotion\textsuperscript{24}.

The impact of drug promotional literature can be lessened by educating undergraduate students, interns and resident doctors, on how to analyze the promotional literature as they are the one who interacts with pharmaceutical representatives. It would make them learn to focus in a practical way on treatment goals when making prescribing decisions, and to develop their own personal formulary for commonly treated conditions.
Conclusion

It was found that in India pharmaceutical companies are publishing drug advertisements without complete information recommended by WHO (see Table 1 and Table 2). Only 12 advertisements out of the 104 advertisements reviewed contained adverse drug reactions/side effects and contraindications/precautions/warnings. Doctors should not completely rely on drug advertisements as a source of information on new drugs. They should be cautious while accepting the claims made in the advertisements. Healthcare professionals should get involved in the reporting of misleading drug promotions to the regulatory authorities, and the authorities reviewing and banning the ads may lessen unethical drug promotion.
References


6) WHO Department of Essential Drugs and Medicines Policy (EDM)-Essential drugs monitoring-Promoting sales or science.

7) Ventola, CL. Direct-to-consumer Pharmaceutical–Therapeutic or Toxic?


11) Impact of Schedule H drugs and Schedule X drugs. The New Indian Express.  


13) Stimson GV. The extent of advertising of pharmaceutical products.  

http://www.plosmedicine.org/article/info%3Adoi%2F10.1371%2Fjournal.pmed.0030130


22) Vidhai V. India, home of banned drugs! Vidhai foundation. Published January 10, 2013


24) Bad Ad Program: FDA Aims to Keep Drug Promotion Truthful. U.S Food and Drug Administration. Published April 5, 2011.


25) Solutions for Healthcare Professionals | India.


26) Networking for Health.


27) Source of Drug Information Online.


29) Encyclopedia of Generic Drugs.

Appendix: Advertisements

1. Tusq-Dx
2. Nupod
3. Tonact/Tonact - TG

4. Harty

5. Clopitab
6. Ramistar

![Ramistar Image]

7. Pinom

![Pinom Image]
8. Ascoril
9. Reswas
10. Zyrcold
11. Sylkam

In patients suffering from Anxiety

Sylkam
Etizolam tablets 0.25/0.5/1mg
Restores the Rhythm of life

Dosage
0.25-0.5 mg b.i.d/t.i.d
1mg- B.I.D/O.D max 2mg/day
12. Healsat+
13. Zerodol s/ Zerodol sp

In Pain & Fever associated with Cough & Cold

Zerodol-S
Aceclofenac 100 mg & Serratiopeptidase 15 mg Tablets
Strikes out Pain & Swelling

Zerodol-SP
Aceclofenac 100 mg, Serratiopeptidase 15 mg & Paracetamol 500 mg Tablets
Strikes out Pain & Traumatic Swelling
14. Tusq-X
15. Supamove
16. Havmax-forte
17. DailyShine
18. Lornid-IP
19. Tatkaal
20. B-G-Prot L
21. Mecoblend
22. B-Colen
23. Orovit active
24. Zerodol-p

Rx

Zerodol-P

Aceclofenac 100 mg & Paracetamol 500 mg Tablets

ExXtra SPEED and POWER

- Awarded with Lifetime achievement award from CMARC
- No.13\textsuperscript{th} Prescribed Brand
25. Folera-MD
26. Preglac-Kit
27. Tonabolin - XT
28. B-Protin

[Image of B-Protin product label]
29. D-Protin
30. Pro-PL
31. HuntRed
32. Clenol- LB
33. Cymet plus
34. Sensodent KF
35. Hexidine
36. Xyzal
37. Atarax
38. Candid-B
39. Dermogerm
40. Panderm+
41. Halosys-S

The Touch of Halo to bring back the Aura in your Patients Life
42. Stator

- Statin should be added to lifestyle therapy in at risk patients <40 years of age
- Co-Rx to patients with metabolic syndrome
- Statin adds 2 years to life

1. ADA Diabetes Care. 2003 November; 26(Supplement 2): S584-591
3. Comparison of mortality in elderly patients versus non-elderly patients  The A.J. of Cardiology. 2006, Vol. 96, No. 1, WD:428. Elderly patients with HDL and known or
   who with 2 years to die.
43. Melnora
44. Deletus
45. Solvin Cold
46. Solvin Cough
47. Novex DS
48. Zomelis
49. Starfix-OF
50. UD- Life
51. Cognistar
52. Sorbitrate
53. Gluformin
54. Tribet
55. Leedz, Roxel, Tisko, Tiscold, KF-4, Zel-100 DT

Enjoy the life... freedom from allergy

**LEEDZ-MN**
Levocetirizine 5 mg & Montelukast 10 mg Tabs

**LEEDZ XP**
Levocetirizine 2.5 mg,
Ambroxol 30 mg,
Paracetamol 325 mg,
Phenylephrine 5 mg & CPM 2 mg

**ZF 4**
Bromhexine HCl 8 mg,
Paracetamol 325 mg,
Guaiphenesin 50 mg,
CPM 2 mg Tabs

**LEEDZ-XP 100 ML SYRUP**
Ambroxol 15 mg, Guaiphenesin 50 mg,
Terbutaline Sulphate 1.25 mg &
Menthol 2.5 mg

**LEEDZ**
Levocetirizine 5 mg Tabs

**ROXEL-150**
Roxithromycin 150 mg Tabs

**TISCO** Suspension
Paracetamol 125 mg,
Phenylephrine HCl 2.5 mg & Cetirizine 1 mg

**TISCO** Suspension
Paracetamol 125 mg,
Phenylephrine HCl 2.5 mg & Cetirizine 1 mg

**Indications:**
- Allergic rhinitis
- Allergic sinusitis
- Allergic respiratory infections
- Common cold
- Allergic skin disorders

For business enquiries, please contact:

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Ph No.: 911-47021067 Fax No.: 911-47021067
56. Emtax-AZ
57. Zathrin
58. Zitrobid-CF

The Combination that has bacteria SCARED

ZITROBID-CF
Cefixime 200mg + Azithromycin 250mg

Because it HAMMERS the infection

Indication
Non gonococcal urethritis, Cervicitis
Mycobacterium avium complex
Acute otitis media & RTI's

SAMS
78295 22777
For Business Enquiries, Contact: Minova
Life Sciences Pvt. Ltd.

#38/2/1, 1st Floor, New Timber Yard Layout, Mysore Road, Bangalore – 560026
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**Liv.52® HB**

Effective management of hepatitis B

Efficacy comparable to interferons & antivirals
- Causes significant loss of HBsAg, HBeAg, and HBV DNA copies
- Significantly reduces the elevated ALT levels and normalizes liver function tests (LFT)
- Alleviates clinical symptoms such as abdominal pain and poor appetite

Well tolerated and safe compared with interferons & antivirals
- Free from harmful side effects such as:
  - Bone marrow depression
  - Pancreatitis & peripheral neuropathies
  - Neurovegetative syndrome
- Devoid of toxicity following acute and repeated administration

Affordable cost of therapy

**Indication**

Hepatitis B infection

**Dosage**

1–2 capsules twice daily after meals.

**Liv.52 HB**

Effective management of hepatitis B

The Himalaya Drug Company
Mauli, Bangalore 562 102, India
62. Wakfree
63. Nacnano
64. Systaflam gel
65. Systaflam - MR

In Acute Painful Inflammatory Condition associated with Spasm

Systaflam-MR

Colchicoside 4 mg + Diclofenac Sodium 75 mg (SR) Capsules

Superior Protection
66. Dailycal Ortho

**CAPTURE the FRACTURE**

*In Osteoporosis & Fractures*

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Calcitriol 0.25 mcg + Calcium Carbonate 1250 mg + Zinc 20 mg Tablets
(Elemental Cal. 500 mg)

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**Calcium Carbonate** - Highest Elemental Calcium

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82. Atopiclair

A unique clinically proven non-stereoidal flare remission option for atopic dermatitis

Atopiclair has significant rapid action in itch reduction

- 81% improvement in itch score as early as Day 8

- Early onset of itch relief, as early as 2.42 minutes

Atopiclair reduces need for steroids to control flare-ups

- 91.3% of pediatric patients and 94% of adult patients did not require steroid rescue medication to control flare-ups

Clinically proven to be safe and effective in adults, children and infants

Atopiclair clears atopic dermatitis in as early as 8 days with 77% treatment success by Day 11 in infants and children with mild to moderate AD

83. Follihair
84. Sorvate

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> Hypertension → CHF
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94. Calcirol
95. Relaxyl
96. Rabipur

Rabies is a 100% fatal disease.

A scratch from a pet dog could be fatal.

World Health Organisation (WHO) recommends immediate vaccination for dog scratch victims (category II exposure).

References:
97. ScC-4
98. Thyrobest
99. Beta S
100. Cancure duo
101. Liv R
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Oleanolic acid 50 mg, Bacoside 50 mg & Saponins 50 mg Caps.

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