



ORIGINAL RESEARCH ARTICLE

EVALUATION OF DRUG ADVERTISEMENTS MADE BY PHARMACEUTICAL COMPANIES AS PER WHO ETHICAL CRITERIA FOR MEDICINAL DRUG PROMOTION IN CHITWAN MEDICAL COLLEGE TEACHING HOSPITAL

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**ABSTRACT**

**Background:** Large number of new drugs are introduced into the market everyday. Drug advertisements are used as a major marketing tool by the pharmaceutical companies to promote their new drugs. WHO has recommended the drug promotional advertisement criteria to make promotional more ethical and rational. So, the aim of this study was to evaluate the drug advertisements made by pharmaceutical companies as per WHO ethical criteria.

**Methods:** A descriptive cross-sectional study of drug advertisements was carried out in the Department of Pharmacology at CMC. The drug advertisements were evaluated based on 11 criteria laid down by the WHO. The data was entered in Microsoft Office Excel software 2008 and exported to IBM SPSS 20.0 version software for further analysis. Descriptive statistics were used to analyze the data.

**Results:** Total 185 drug advertisements were evaluated. Among them, most of them 66.40% were promoting single drug formulation. Antimicrobials 21.6% were the most commonly promoted group. Only 12.4% followed all the criteria as laid down by WHO. Most of the drug advertisements have the brand name written with approved generic name, dose, manufacture name and dosage form. It was found that the most neglected part of drug advertisements was information related to drug interactions (12.40%) and side effects (14.10%).

**Conclusions:** Majority of drug advertisements fulfilled only half of the WHO ethical criteria for medicinal drug promotion. This indicates that unethical drug promotional advertisement is wide spread which need concern of all health authority.

**INTRODUCTION**

According to World Health Organization's (WHO) ethical criteria for medicinal drug promotion, "promotion refers to all the informational and persuasive activities of manufacturers and distributors, the effect of which is to induce the prescription, supply, purchase and / or use of medicinal drugs".<sup>1</sup>

Abundant number of new drugs are being launched into the market.<sup>2</sup> Drug advertisements (DAs) are used as a major marketing tool by the pharmaceutical companies to promote new drugs.<sup>3</sup> One of the major marketing techniques of pharmaceutical companies is "direct to physician marketing." Medical representatives contact the physicians and provide them with sample drugs and token gifts.<sup>4</sup> WHO has developed ethical criteria for medicinal drug promotion.<sup>1</sup> These guidelines motivate the rational use of medicine which would eventually help to prevent unethical drug promotion practices in the country. DDA is the national drug regulatory authority in Nepal.<sup>5</sup> But, it has been established that the information provided in the DAs may not follow the code of ethics. This may lead to promotion of irrational and unethical prescribing behaviors.<sup>6,7</sup> Therefore, the WHO has established ethical criteria

for medicinal drug promotion. The pharmaceutical industries are recommended to execute this guideline.<sup>8</sup> This guideline motivate the rational use of medicine which would help to prevent unethical drug promotion practices in the country. The study done in Russia<sup>9</sup>, India<sup>3</sup> and Nepal<sup>10</sup> indicate that the DAs do not meet the WHO ethical criteria for medicinal drug promotion which indicates that unethical drug promotional advertisement is wide spread all over the world.

The objective of this study was to assess current drug advertisements pattern made by different pharmaceutical companies attending CMCTH.

**METHODS**

A descriptive cross-sectional study of DAs was carried out in the Department of Pharmacology at CMC, for a period of 3 months (Dec 2021-Feb 2022). The study was started after getting the ethical approval from Institutional Review Committee of Chitwan Medical College (Ref No. CMC-IRC/078/079-083). DAs of all pharmaceutical companies in any form like flyers, leaflets, brochures etc. were collected from various outpatient

departments (namely medicine, surgery, psychiatry, obstetrics and gynecology, ophthalmology, skin, pediatrics, and orthopedics). There was total 200 DAs available during the specified study period. Among them 185 DAs were selected as per inclusion criteria. DAs of all pharmaceutical companies registered with DDA were included in the study whereas DAs relate to medical devices, pharmacological products related to animal care and DAs without any brochures or leaflets were excluded from study. WHO ethical criteria for medicinal drug promotion<sup>1</sup> which is a structured proforma was used to collect data. Collected DAs were assessed as per the WHO ethical criteria.

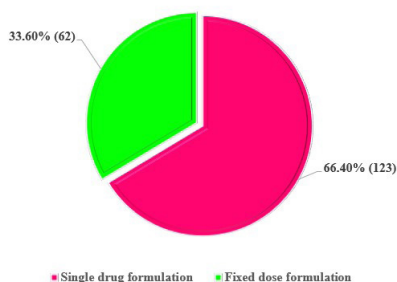
The following were the WHO ethical criteria to be followed by pharmaceutical industries for the completeness of DAs<sup>1</sup>:

- 1.The names of the active ingredients using either international nonproprietary names or the approved generic names of the drug
- 2.The brand name
- 3.Content of active ingredient per dosage form or regimen
- 4.Name of other ingredients known to cause problems, i.e., adjuvant
- 5.Approved therapeutic uses
- 6.Dosage form or regimen
- 7.Side effects and major adverse drug reaction
- 8.Precautions, contraindications, and warnings
- 9.Major interactions
- 10.Name and address of the manufacturer or distributor
- 11.Reference to scientific literature as appropriate.

In addition to the above mentioned WHO criteria, DAs were also evaluated for type of formulation, pictures depicted, most commonly promoted group of drugs and comparison of National and International DAs. The data was entered in Microsoft Office Excel software 2008 and exported to IBM SPSS 20.0 version software for further analysis. Descriptive statistics were used to analyze the data. The data were expressed as percentage.

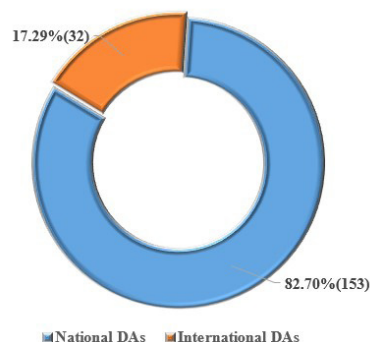
## RESULTS

During the study period 200 DAs were collected, out of them 185 were chosen as per inclusion criteria. Among them, most of the DAs 123 (66.40%) were promoting single drug formulation whereas 62 (33.60%) were fixed dose formulations as shown in Fig.1.



**Figure 1: Distribution of dose formulation in available DAs in CMCTH (n=185)**

Figure 2 shows, out of 185 DAs, 153 (82.70%) were from national pharmaceutical companies and 32 (17.29%) were from international companies.



**Figure 2: Types of DAs available in CMCTH (n=185)**

Table 1 depicts the categorization of DAs according to pharmacological groups. Antimicrobials 40 (21.6%) were the most commonly promoted group followed by anti-diabetic drugs 33 (17.8%) and Cardiovascular System (CVS) drugs 30 (16.2%) and the least promoted were ophthalmic group of drugs 5 (2.7%).

Table 1 illustrates the types of pictures presented in DAs which revealed that majority of the DAs contains pictures of drug cover 115 (62.1%) followed by pictures of organs 14 (7.56%) while 23 (12.43%) did not show any pictures.

**Table 1: Advertisement pattern and pictorial presentation of available brochures in CMCTH (n=185)**

Category	Frequency (%)	
Most commonly promoted drug	Antimicrobials	40(21.6)
	Anti-diabetic drugs	33(17.8)
	CVS	30(16.2)
	Analgesics	19(10.2)
	GIT	16(8.6)
	Respiratory system	10(5.4)
	CNS	11(5.9)
	Derma	12(6.4)
	Ophthalmic	5(2.7)
	Miscellaneous	9(4.8)
Types of pictures depicted	Drug cover	115(62.1)
	Women	6(3.2)
	Men	3(1.6)
	Cartoon	9(4.8)
	Children	8(4.32)
	Family	2(1.1)
	Doctor	5(2.7)
	Organ	14(7.56)
	None	23(12.43)

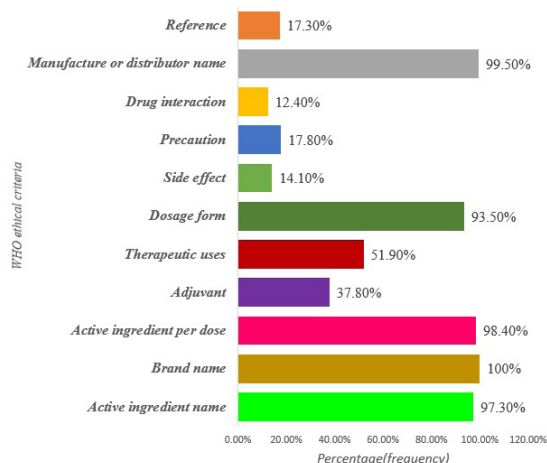
Table 2 revealed that among 185 DAs, only 23 (12.4%) fulfilled all the criteria as led down by WHO. Approximately one third 70 (37.8%) of the evaluated DAs were shown to fulfill only five criteria followed by 42 (22.7%) fulfilling six criteria.

**Table 2: Total number of WHO ethical criterias for medicinal drug promotion fulfilled (n = 185)**

Total number of WHO ethical criterias for medicinal drug promotion fulfilled	Frequency (%)
Only three	3(1.6)
Only four	9(4.9)
Only five	70(37.8)
Only six	42(22.7)
Seven	28(15.1)
Eight	5(2.7)
Nine	2(1.1)
Ten	3(1.6)
Eleven	23(12.4)

Figure 3 demonstrates that most of the DAs have the brand name (100%) written with approved generic name (97.30%), dose (98.40%), manufacture or distributor name (99.50%) and dosage forms (93.50%). It was seen that most of the DAs were lacking information related to uses (51.90%), precautions (17.80%) and references (17.30%). It was found that the most neglected part of DAs was information related to drug interactions (12.40%) and side effects (14.10%).

**Figure 3: Evaluation of drug advertisements made by pharmaceutical companies as per WHO ethical criteria (n=185)**



As shown in table 3, Out of 32 international DAs, it was found that two DAs fulfilled all the eleven ethical criteria.

Out of 153 national DAs, it was found that 21 DAs fulfilled all the 11 ethical criteria. This showed that the national DAs fulfilled more WHO ethical criteria as compared to international DAs.

**Table 3: Comparison of national and International DAs fulfilling all the WHO ethical criteria**

Type of DAs	Frequency (%)
National (n=153)	
Fulfill all criteria	21(13.72)
International DAs (n=32)	
Fulfill all criteria	2(6.25)

## DISCUSSION

The result of our study indicate that maximum number of the DAs were promoting single drug formulation (66.40%). Similar result has been reported in a study done by Jadav et al.<sup>11</sup> (54%) and Hailu et al.<sup>12</sup> (61.8%).

The findings of this study revealed that majority of the DAs were from National pharmaceutical companies (82.70%). This result is supported by the study done by Jha et al.<sup>10</sup> This could be because both the studies are done in Nepal.

According to the result of our study, antimicrobials (21.6%) were the most commonly promoted group followed by anti-diabetic (17.8%) group of drugs. This finding was in concordance with a studies conducted by Hailu et al.<sup>12</sup>, Jha et al.<sup>10</sup> and Khakhkhar et al.<sup>8</sup> This might be due to the reason that pharmaceutical companies are mainly focusing on highly prevalent diseases and these studies were done in Ethiopia, Nepal and India respectively. So, while prescribing the drugs, physicians should not only rely upon the information provided by DAs. They have to update themselves to avoid irrational prescribing and other drug related effects. On the contrary, a study conducted in India<sup>13</sup> revealed that CVS drugs were the most commonly promoted categories.

As per our study, majority of the DAs contained pictures of drug cover (62.1%) being used for promotion which is similar to the study done by Hailu et al.<sup>12</sup> However, this space could have been utilized to give important information like safety, adverse effects etc. related to the drugs.

Present study findings showed that limited 23 (12.4%) DAs fulfilled all the ethical criteria as led down by WHO. Similar findings have been observed in studies conducted in Nepal,<sup>6</sup> India<sup>3</sup> and Ethiopia.<sup>14</sup> This indicates that pharmaceutical companies are mostly focused on their commercial benefits rather than ethical educational aspect.

On the basis of the observations of this study, it was seen that majority of the DAs have the brand name (100%), generic name (97.30%), dose (98.40%), manufacturer name (99.5%) and dosage form (93.5%) written which is in accordance with the studies done in Nepal and India by Prasad et al.<sup>15</sup>, Jha et al.<sup>10</sup> and Jadav et al.<sup>11</sup> This finding was in contrast to the studies done by Alam et al.<sup>6</sup> and Angsulee<sup>16</sup> where the percentage was slightly lower as compared to our study.

More than 148(>80%) of the DAs has not mentioned about the reference cited which is in line with the study in Nepal<sup>15</sup> and Brazil.<sup>17</sup> This is not fair enough as DAs should contain valid references which can aid the prescribers to confirm the validity of the claims written in the DAs.

Likewise, it was found that among all WHO ethical criteria the most neglected part of DAs was information related to drug interaction, adverse drug reaction and precautions. These findings coincide with the studies done in Russia,<sup>9</sup> India<sup>3</sup>, Nepal<sup>10</sup> and Argentina.<sup>18</sup> This indicates that unethical drug

promotion is worldwide including Nepal, which needs concern of all health authorities.

According to our study, the National DAs fulfilled more criteria as per WHO guidelines compared to International DAs which contradicted from the study done by Prasad et al.<sup>15</sup> This contradiction may be due to different study setting and site.

This study is, however, not devoid of limitation. First of all, the smallest sample size is the biggest limitation. Secondly this study focused on DAs obtained from only one teaching hospital of Chitwan, so it cannot be generalized to all the DAs made by

pharmaceutical companies of Nepal.

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