Radio drug advertisement situation and regulation in Thailand

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Abstract

Drug consumption in Thailand is high in comparison with other countries. A key factor influencing this over consumption is advertising. Radio is the media that can easily reach a lot of people, in both urban and rural areas. Thai people typically practice self-care by purchasing drugs from a local pharmacy. They are often stimulated by drug advertisements. Past data have shown that there were many illegal drug advertisements. Consumer protection of this aspect seems to be poor. Better regulation or regulatory mechanisms are needed; therefore, this study reviews the current regulations and practices of drug advertising via radio in Thailand. The effectiveness of the present regulatory system is also evaluated by measuring the number of exaggerated claims, misleading claims, and other violations. In order to accomplish these aims, documentary reviews, in-depth interviews and the recording of radio drug advertisements were performed. We found that the existing regulatory framework was firmly established. The Thai FDA has followed the regulation in Drug Act B.E.2510, and also set standard criteria for drug advertising. The FDA is responsible for drug advertisement monitoring in Bangkok Metropolitan and has decentralized its monitoring authority to each provincial health office. However, poor drug advertisement surveillance was detected. Seven of the top ten medicines that were most frequently put on air were traditional medicines. Five hundred and twenty-five unique advertisements (with 2,431 repeated advertisements) were collected from 5 provinces. It was found that 43.6% of the unique advertisements were totally correct as required in the drug advertisement regulation and FDA standard criteria, while 8.9% made exaggerated claims, 13.17% made false claims, and 21.88% were misleading. Three modern drugs – paracetamol, piroxicam, and vitamins – were found commonly put on air. Manpower limitations, overburdened staff and passive monitoring result in weak consumer protection. Complaints from NGOs, consumer organizations, health care providers and the public are key to enabling effective drug advertisement surveillance. The engagement of these parties and the outsourcing of monitoring functions are recommended. Campaigns to educate all related parties on drug advertisement regulation are critical activities that the FDA must also undertake.

1. Introduction

Drug consumption in Thailand is high. In 2000, drug consumption expenditure by the Thai population was 1.3 million US dollars (Thai Drug System Analysis, 2002). In addition, drug consumption expenditure forms 31.2% of total health care expenditure (OECD Health Data, 2001). This figure is considered high in comparison with other countries. For example, in the U.S.A., drug consumption expenditure is 10.1% of total health care expenditure. Drug consumption expenditure is 13.8%, 16.8%, 16.3%, 22.0%, 15.0% and 11.4 % of total health care expenditure for Korea, Japan, the U.K., France, Canada, and Australia, respectively (OECD Health Data, 2001). This indicates possible over consumption of drugs in Thailand.

One factor believed to be a key factor influencing the over consumption of drugs is advertising (Thai Drug System, 1994). Generally, advertisements serve three main functions for firms: communicating the presence of their product; informing consumers of its positive attributes; and persuading consumers that their product will bring sufficient value to warrant its purchase. Advertising has a strong influence on the sale volume of any goods. Drug advertising covers media such as television, radio, newspapers, magazines and printed materials, and is seen to be for the purpose of promoting directly or indirectly the sale of any drug. Theoretically, drug advertisements are intended to educate consumers and should be to support and encourage the improvement of health care through the rational use of drugs. Drug advertising can influence drug use behaviour in the Thai population (Tanlarput, 1995). Large-scale advertising may also lead consumers to demand drugs that may not be medically necessary or appropriate for the patient's condition. Thus, it is very important that the information given in all advertisements should be truthful. There must be regulations to control drug advertising, the enforcement of which requires an effective monitoring system.

Consumers in Thai society typically practice self-care by directly purchasing drugs from local drug stores for treatment of their ailment, often stimulated by drug advertising in the mass media. Radio broadcasting can easily reach a lot of people, especially those in rural areas. People in rural areas usually have an imbalance of information because of the socioeconomic and educational system.

There are many illegal drug advertisements on radio broadcasting (Tangcharoensathien, 1994). One study found that 42.8% of advertisements contained incomplete statements according to the regulations, 32.42% contained exaggerated information (Oppamayun, 1996).

Furthermore, unapproved advertising was also found. The monitoring system in the above study was found to be quite weak because of the limited budget and staffing. The most critical issues were inaccurate, imbalanced, and misleading information, believed to be key factors influencing the over consumption of drugs (Thai Drug System, 1994). Clearly, interventions are needed to make drug advertising more honest, and contain clear, truthful information that will better inform the Thai people. Prior to the establishment of such interventions, current basic information on drug advertisements needs to be collected.

The aim of the current study is therefore to assess the current system of drug advertising regulation, in particular the legal framework, mechanism of enforcement, and the effectiveness or the outcome of the regulation of drug advertising via radio broadcasting. The findings from this study can inform policy for improved regulation, and guide what should be the future agenda for the protection of consumers.

1.2 Objectives

To accomplish the aims we have set, there are four specific objectives of the current study:

1. To analyze the contents of pre- and post-marketing regulation of drug advertising, the organization and management of regulation at central and provincial levels. Particular attention will be paid to the description of regulation content, and the interpretation of the law in the operational concept and practice of regulation.
2. To analyze the interplay between major stakeholders in regulating drug advertising, their power, position and interests. Particular attention will be paid to mapping the role, function and interrelationship of regulators at the FDA and provincial health office (delegated authorities of the FDA), regulatees (drug industry and business), advertising agencies (producer of spot radio media), media associations, radio station managers, and consumer protection associations (NGO).
3. To analyze the cost and outcome of monitoring drug advertisements.
4. To analyze the contents of drug advertisements. Particular attention will be paid to exaggerated claims, false claims, misleading advertisements, and other unapproved market promotion strategies e.g. betting associated with drug promotion.

2. Methodology

1. To address objective one: Document research on laws and regulations concerning pre- and post-marketing control of drug advertising. In-depth interviews of officials at the

FDA Food Control Division, Drug Control Division and officers in Provincial Health Offices were conducted on their organization and management of enforcement, in particular post-marketing control.

2. To address objective two: In-depth interviews to assess the interplay of key stakeholders on advertising of drugs were also performed. Key stakeholders include the FDA, Drug Control Division, Department of Public Relations, Media Agencies, Health Consumer Protection Association (NGO), drug industries, the Journalist Council, advertising agencies, Advertising Association, etc.
3. To address objective three: Cost and outcome analysis of monitoring drug advertisements were conducted. The cost of post-marketing drug advertisement monitoring was the operation cost by researchers. The outcome of advertising regulation was the negative outcome, i.e. the outcome was the number of incorrect messages detected by researchers. All over-claims, false claims, misleading advertisements, and other unapproved market promotion strategies, e.g. betting associated with drug promotion, were classified as incorrect messages. Then cost per message detected could be a proxy of how much Provincial Health Office and FDA would need to invest to protect consumer from misleading advertisements. All surveillance advert messages were analyzed and judged by an expert panel in the FDA (Drug Control Division).
4. To address objective four: Content analysis was used to analyze in detail the contents of drug advertisements. We conducted cross-sectional surveys to examine the content of drug advertisements from radio stations. Details regarding claims, warning messages, administration procedures, and references were focused on to show the magnitude and profile of false and or misleading advertisement content. We collected drug advertisements both from Bangkok and other provinces. We used stratified simple random sampling as a means to select radio stations in Bangkok. Stations were stratified by radio frequency (AM or FM). Fourteen AM, and 14 FM radio stations were randomly selected without replacement. For each station chosen, all programs were tape-recorded. Two stations were recorded on each day throughout the week. For other provinces, we purposively selected one province from the four regions of Thailand. Chiang Mai, Khon Kaen, Songkhla, and Chonburi were selected as representatives of the Northern, North-Eastern, Southern, and Eastern regions, respectively. Every radio station within these selected provinces was included in the study. The study timeframe was one week. The study assumed that there was no variation of program between radio stations. Recording was done everyday. For example, if there were 13 stations in Chiang Mai, ten stations

were recorded during the week (two stations per day), and three stations recorded at the weekend. All programs were taped from the beginning to the end of station broadcasting time. The current study included spot advertisements and programs that discussed drugs.

3. Results

3.1 Regulatory system

3.1.1 Current legal framework

The general principles of drug advertising control in Thailand are that all advertising and promotional material, such as auditory via television, radio spots, newspaper, magazines, printed material, slides, motion pictures, campaign, journal, direct mail, etc., must meet the established requirements and be approved for text, auditory or visual content by the FDA. The Thai FDA follows Drug Act B.E. 2510 and its standard criteria for drug advertisement, as follows:

1. A drug advertisement should (Section 88):
    - not be boastful of the therapeutic properties of the drug's ingredients as being miraculously or completely capable of curing, alleviating, treating or preventing diseases or illness, nor should any other words of similar meaning be used;
    - not make false or exaggerated claims as to its therapeutic properties;
    - not mislead that it has a substance as its chief or component ingredient, which in fact it has not or does have but at less than the quantity indicated;
    - not mislead that it is an aphrodisiac or a birth control drug;
    - not claim the therapeutic properties of a dangerous or a specially-controlled drug;
    - contain no certification or laudation of its therapeutic properties by any other person;
    - not claim that its therapeutic properties are capable of curing, alleviating, treating or preventing disease or symptom thereof as notified by the Minister under Section 77 (i.e. diabetes, cancer, paralysis, tuberculosis, psoriasis, diseases of brain, heart, lung, liver, spleen, and kidneys) (Ministry of Public Health’s order 6 January 1979).
2. An advertisement to sell drugs through radio amplifier, television or motion picture or through printed matter must:
    - receive permission for the text, sound or picture used in the advertisement from the licensor;

- follow the conditions set by the licensor. (Section 88 bis)

3. No drugs shall be advertised impolitely, or by means of singing and dancing entertainment, or by showing patient's distress or suffering. (Section 89)
4. No drug shall be advertised by means of gadget incentives or raffle drawing. (Section 90)
5. The Secretary of the Food and Drugs Administration is empowered to issue written orders to cease any advertisement deemed to be contrary to this Act. (Section 90 bis)
6. Whoever advertises the sale of drugs in violation of Section 88, Section 88 bis, Section 89 and Section 90 shall be liable to imprisonment not exceeding six mouths or a fine not exceeding ten thousand Baht or both. (Section 124)
7. Whoever violates an order suspending an advertisement for the sale of a drug by the Secretary of the Food and Drug Administration as prescribed in Section 90 bis shall be liable to imprisonment not exceeding three months or a fine not exceeding five thousand baht, or both, and shall be liable to a fine of five hundred Baht per day until the order has been followed. (Section 124 bis)
8. No drugs shall be advertised which may misleadingly imply capability for self-diagnosis.
9. Improper phrase/text directing the public to an unnecessary drug purchase, such as "a valuable souvenir", is prohibited.
10. Comparative advertising with other products is prohibited.
11. Contravention of traditional forms of advertising is prohibited.
12. Portrayal of unlawful practices in advertisements, e.g. purchasing of drugs in groceries, is prohibited.
13. No advertisement is permitted for drugs containing narcotics.

Furthermore, the FDA has set standard criteria for drug advertisement to the public as follows:

- All advertisements must show the drug's name as registered with the FDA in the advertisement or leaflet.
- All advertisements must show the generic name.
- A "Ready-packed drug" that has some part of the name similar to a "dangerous drug" must show its name clearly.

- And, if it has some part of the name similar to other products, there must be a statement saying that this product is a drug in order to reduce the consumer's confusion.
- Drug preparations that have some parts of their name the same as each other and have the same indication but have different colour, taste, or odour can be advertised within the same advertisement.
- All advertisements must clearly state the dose, administration, contraindications, and warnings.
- If the drug can be administered in various ways and/or has different indications depending on the means of administration, it must have separate, obvious, administration statements.
- A "specific place drug", e.g. vaginal tablets, that requires a complicated explanation of its administration and its safety information cannot be advertised.
- There must be a warning message in all drug advertisements. A radio advertisement for a drug must clearly state the warning message.
- Drug advertisements must not be in contradiction with Thai customs and traditions.
- Drug advertisements which mislead consumers to believe that they can self-diagnose are not allowed.
- Drug preparations that have narcotic drug composition are not allowed to be advertised to the public.
- Correct grammatical language must be used in drug advertisements.
- Drug advertisements must not cause overuse or mislead consumers in how a drug can be regularly used.
- Drugs advertisements that compare the advertised drug with other products are not allowed.

In summary, the drug advertisement legal framework is quite comprehensive. However, some elements are too subjective. A high level of ambiguity leads different regulators to interpret them differently in different situations in real practice, especially the judgement of whether advertisements are considered as misleading, making over-ambitious claims or false claims.

3.1.2 Current practices in the drug advertisement regulation process

Thai FDA

At the national level, the FDA is responsible for regulating drug advertisements. In theory, the FDA has taken a proactive approach to the monitoring of drug advertising. The Thai FDA manages the monitoring system for drug advertising in the Bangkok Metropolitan area. Currently, there are four officers responsible for both pre-marketing and post-marketing drug advertising regulation in all communication channels, such as radio broadcasting, television, magazines, newspapers and other printed materials. Their priority job is to approve the content of advertising messages in all these channels. There are annually around 2500 direct-to-consumer and 1000 direct-to-physician drug advertisements applying to be licensed. Most of the officers' time is spent on the registration or licensing processes; therefore, post-marketing surveillance and monitoring is very poor. The public's voluntary reports to FDA are the main means of post-marketing surveillance because of the limitations of FDA manpower. Table 1 shows the report of complaints about exaggerated claims in drug advertisements for all channels (Prasert, 2001). Thai people, however, seldom reported to the FDA. The perception that "Ads must be boastful" has become the norm in Thailand. But boastfulness of a drug's therapeutic properties is the major complaint about drug advertisements. An FDA report found that the majority of complaints are about herbal drug advertisements (Table 2). The category of drug that most often violates the regulation on exaggerated and unapproved claims in advertisements is contraceptive drugs (Prasert, 2001).

Table 1: Number of complaints of exaggerated claims in the drug advertisement reported by the public

	1997	1998	1999	2000	Total
Traditional drug advertisement	5	2	19	30	56
Modern drug advertisement	8	7	47	13	75

Table 2: Number of drug advertisement complaints

Drugs	1999	2000	Total
Obesity drug	2	3	5
Herbal drug	19	21	40
Contraceptive drug	25	3	28
Other	0	8	8
Total	46	35	81

Advertisements of any drugs must apply for approval from the authorities. The FDA has set drug advertisement standard criteria for all media. Advertisement of dangerous drugs and specially controlled drugs is absolutely prohibited. Most petitions against advertisements come from NGOs and competitive companies. Few such petitions come from consumers. Most of the accused cases are unapproved drug advertisements, considered to be illegal drug advertisements. In the case of reports to the FDA of misleading or exaggerated claims, if the advertisements are unapproved, FDA officers will inform the product owners, the media broadcasting/displaying the illegal advertisement, and the public relations department to cease the broadcasting. The FDA rarely has the needed evidence or tape recording from the radio station personnel. This makes it very hard to sue any misbehaving drug companies and involved parties. The fine is 20,000 Baht for the first incident and not more than 100,000 Baht in total. In rare cases, the FDA's suspension order against the advertisement has been violated since the fine is quite low compared with the benefit the company gains from selling their drug. No appeals have ever been lodged since the fine is very low (20,000 Baht). In cases where the FDA has insufficient evidence to issue an order suspending an advertisement, the consumer protection section of the FDA will raise awareness and warn consumers to its public relation channel.

In conclusion, the FDA has laid out good standard criteria for drug advertisement regulation. The pre-marketing processes seem to be complete, but post-marketing surveillance and monitoring are very weak. Because of manpower limitations and overburdened FDA personnel, active post-marketing surveillance was ignored. Good cooperation with other parties, such as NGOs and radio stations are needed. Furthermore good public complaints and public relations channels are important in assisting the FDA in providing consumer protection.

Provincial Health Office

The Thai FDA has allocated drug advertising regulation authority to each provincial health office. Each provincial health office takes care of it own province. Radio advertisements of any drug that will be broadcast in an individual province must apply for approval from the authorities at the relevant provincial health office. But radio advertisements of any drug that will be broadcasted in many provinces have to apply for approval from the FDA.

Provincial health offices use the same regulations and rules for post-marketing drug advertisement control as used by the FDA. The scope of the regulation is only that which is authorized by the FDA. The head of a provincial health office, thus, can issue orders suspending particular drug advertisements within the province. Provincial health officers usually employ three strategies in post-marketing control of drug advertisements:

1. Education: Most cases where the regulations have been violated are unapproved drug advertisements. The main reason for such violations is the lack of knowledge about the drug advertisement regulations. Provincial health officers have set a plan for training radio-station personnel and DJs on the regulations.
2. Surveillance: Cooperation with NGOs and other government organizations in the province is another strategy used post-marketing control of drug advertisements.
3. Legal system: In violation cases, provincial health officers have employed the order suspending the advertisement for sale of drugs and followed Drug Act B.E. 2510, section 124 and 124 bis.

No specific officer is directly responsible for post-marketing drug advertising surveillance. All officers work as a team in post-marketing drug advertising surveillance. Currently, the monitoring system is generally passive and relies on the voluntary reporting by consumers and NGOs. If there are any reports or complaints of misleading or exaggerated claims in drug advertisements, provincial officers will informally call the radio station or D.J. to stop the broadcast. Then, the product owners or distributors will be notified by formal letter. Most such violations were for unapproved drug advertisements. One big problem is that the provincial officer has no information from the FDA on which drug advertisements are approved; therefore, these officers cannot verify whether a broadcasting advertisement is approved or has been modified from one that is already approved. The process of checking back with the FDA takes about 6 months; thus, provincial health officers use a warning strategy instead of a legal strategy for advertisements making misleading or exaggerated claims. Most of them cooperate well with the warning and stop the advertisement being broadcast. Lack of information from the FDA makes it difficult for the remote areas to know the truth about suspicious advertisements. This problem can be eased with the utilization of the internet. The FDA should post all the approved advertisements on the website in order that provincial health officers can access the information. All public complaints should be posted as well to raise awareness among provincial health officers and consumers.

It is notable that some provincial health offices in the area adjacent to Bangkok Metropolitan area are not aware that they have drug advertisement monitoring duties. They have left post-marketing drug advertisement monitoring and surveillance to the FDA because all their radio broadcasting programmes are the same as in Bangkok.

Most of the spot radio drug advertisements have been approved by the provincial health office or FDA. However, drug advertisements by DJs often make exaggerated or misleading claims. Provincial health officers will send a warning letter to DJs who violate the regulation if there is evidence of exaggerated or misleading claims, or unapproved advertising. A very few countercharges from defendants occur because all the product owners and distributors, radio stations, and advertising agencies cooperate and obey the warning from provincial health officers.

In conclusion, too few officers in the government sector are responsible for both pre- and post-marketing drug regulation. Drug advertisement regulation is a small part of the drug regulation system. Post-marketing drug advertisement surveillance has been left behind other priority works. In addition, there are no specific officers who are responsible and concerned only with post-marketing control of drug advertisements. The main monitoring and surveillance mechanisms are voluntary reports from NGOs and consumers. A strategy of warnings was the first mechanism used in stopping misleading, over-claiming, and unapproved radio drug advertisements. A slowdown in FDA and provincial health office review has left consumers more vulnerable to misleading messages. For better consumer protection, the FDA might need to consider other options such as outsourcing NGOs to monitor drug advertisements.

Drug company, advertising agency and radio station manager

Drug companies or distributors usually give all drug information, including all regulations in Drug Act B.E. 2510, to an advertising agency to create the advertising message. Once the spot advertisement has been created, the advertising agency will submit the advertisement with the sound recording to the FDA for approval. Usually, media buying will be done by advertising agencies. Full-service advertising agencies will do a marketing plan for the drug companies such as selecting broadcasting channels, adjusting the duration and frequency of each advert based upon the budget set by the drug company, and contracting radio station managers. There are some agreements on the quality control of the general advertisements in

the media buying contracts between the media buying agency and the radio station. There is no specific agreement of health product advertisement in the contract. In general, radio programme organizers need to be trained and pass an examination before practicing. However, health product advertisement regulations or any code of ethics are not in the contents of the training.

If a misleading, over-claiming drug advertisement or violation has been reported to the radio station manager, s/he will directly contact the media buying agency, rather than the radio program organizer, to suspend the advertisement. Radio stations, however, have to keep their business with the media buying agency, therefore, obvious evidence is needed before they will take any informal or formal action. The radio manager will not stop the advertisement until the situation is confirmed with the provincial health office or FDA. The slow process of confirmation is a major problem in effective consumer protection.

In summary, for better consumer protection, good cooperation between the government sector, drug companies or distributors, and radio stations is critical. Complaints from consumers are needed for post-marketing surveillance. Lack of knowledge of the law and regulations in advertisement agencies and radio station personnel, especially disc jockeys (DJs), causes law violations.

3.2 Monitoring and controlling drug advertising: stakeholder analysis

Eight groups of key actors play critical roles in controlling and monitoring radio drug advertisement. These stakeholders include the FDA, provincial health offices, drug industry, advertising agencies, NGOs (consumer protection), radio stations, media buying agencies, and academia. The FDA and provincial health officers are authorized by laws in the control, monitoring and enforcing of drug advertisements. Thus, they have power of the highest level and are fully involved in regulating drug promotion.

The drug industry, advertising agencies, media buying agencies, and radio stations are the regulates. They would make much higher profits if there were no restrictions on advertising as laid down by the drug control regulations. Radio stations also play some consumer protection role, having set up an agreement on general advertisement controls with the media buying agencies. Unfortunately, personnel in radio stations have no pharmaceutical knowledge to evaluate the content of drug advertisements. Therefore, they have low involvement in assisting

drug advertisement monitoring. In general, when regulatory measures are enforced, these businesses usually have a neutral position, possibly due to their low power.

Table 3: Key stakeholders and their involvement in the drug advertisement control regulations

Stakeholder	Role	Position	Power	Interest
FDA	Regulatory body - law & regulation formulation, enforcement	Supportive (pre-marketing) Neutral (post-marketing)	High	Public interest
Provincial Health Office	Regulatory body - enforcement	Supportive (pre-marketing) Neutral (post-marketing)	High (limited)	Public interest
Drug industry	Business oriented under law & regulation Find fault of competitors	Neutral/ Opposed	Low	Profit oriented/ less consumer protection
Advertising agency	Supply needs of drug industry/ conform with law and regulation	Neutral/ Opposed	Low	Profit oriented/ less consumer protection
NGO (consumer protection)	Watchdog / consumer representative	Supportive	Moderate	Public interest
Radio station	Set up agreement on general advertisement control with media buying agencies Business oriented with media buying agencies under voluntary compliance with law & regulations	Supportive/ Neutral	Low	Moderate consumer protection/ profit oriented
Media buying agency	Business oriented under agreement with radio stations	Neutral	Low	Profit oriented
Academia	Indirect support for accurate information / ethics	Supportive	Low	Public interest

Non-government organizations (NGOs) with consumer protection activities often voice and make complaints to the authorities on behalf of consumers. Unfortunately, few of them are particularly interested in drug issues. Academia (mostly lecturers of schools of pharmacy) provide indirect support for consumer protection by providing accurate information for government sectors and non-government organizations and inculcate ethical issues to pharmacy students.

3.2.1 Content analysis of drug advertisement

This section discusses the results of a radio advertisement survey carried out during the summer of 2002. The survey was conducted in 5 provinces: Bangkok, Chiengmai, Konkaen, Songkla, and Chonburi. All programs on 49 radio stations were tape-recorded on the basis of one-day station recording. Twenty-nine of them were broadcast on the AM wavelength, while the others were on FM. Overall, Thailand has more AM than FM stations.

Almost 2000 and 500 advertisements were found on AM and FM stations, respectively. The average number of advertisements on AM stations was found to be almost 3 times higher than on FM stations. The distribution of radio stations by geographic area and the number of advertisements are shown in Table 4.

Table 4: Distribution of radio stations and number of advertisements by geographic area

	AM		FM		Total	
Province	station	advertisements	station	advertisements	station	advertisements
BKK	12	926	8	94	20	1020
Chiengmai	6	233	2	109	8	342
Chonburi	1	26	2	46	3	72
Songkla	5	237	2	65	7	302
Konkaen	5	533	6	155	11	688
Total	29	1955	20	469	49	2424

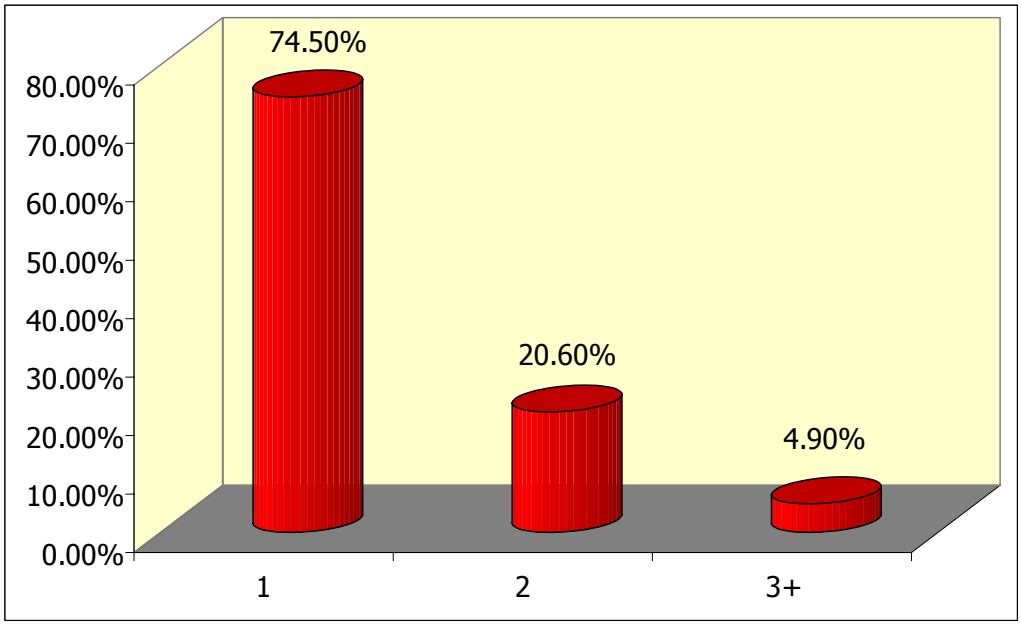
There are 2 types of radio advertisements: spot advertisements and live announcements by a radio spokesperson. Most of the advertisements were in the form of spot advertisements: only 10% were announcements by radio spokespersons. Advertisements in the form of announcements were more common among AM compared to FM radio stations. The distribution of type of advertisement by radio station wavelength is portrayed in Table 5.

Table 5: Distribution of type of advertisement and radio station wavelength

	Spot	Announcement	Total
FM	429	14	443
AM	1755	200	1955
Total	2184	214	2398

From the 49 stations, we found 525 unique advertisements broadcast. These advertisements were aired a total of 2,431 times. It was found that the majority of the advertisements were for 1 drug product. Slightly less than 20% portrayed 2 different drugs, and almost 5% portrayed more than 2 drug products. Figure 1 shows the number of drug products per advertisement.

Figure 1: Number of drug products per advertisement



Drug advertisements were broadcast at different times of the day. The number of advertisements increased through the day and then decreased at night. Almost 40% of drug advertisements were broadcast between noon and 6pm. The distribution of advertisements over time is shown in Figure 2. This trend was found to be true for both AM and FM stations (see Figure 3).

Figure 2: Distribution of advertisements over time

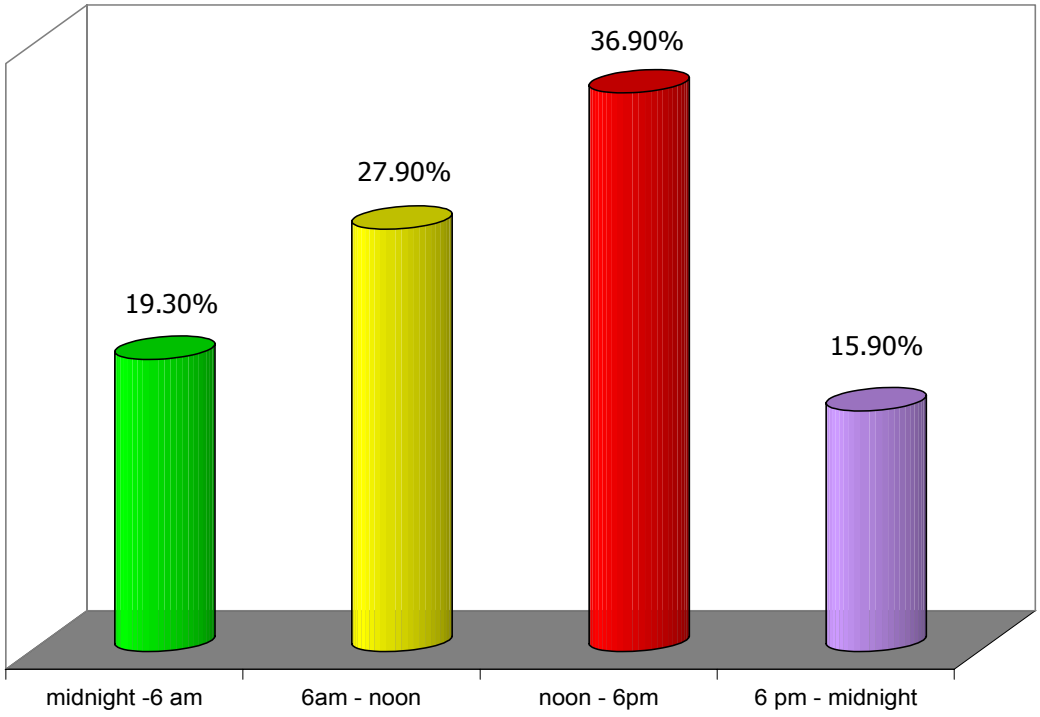
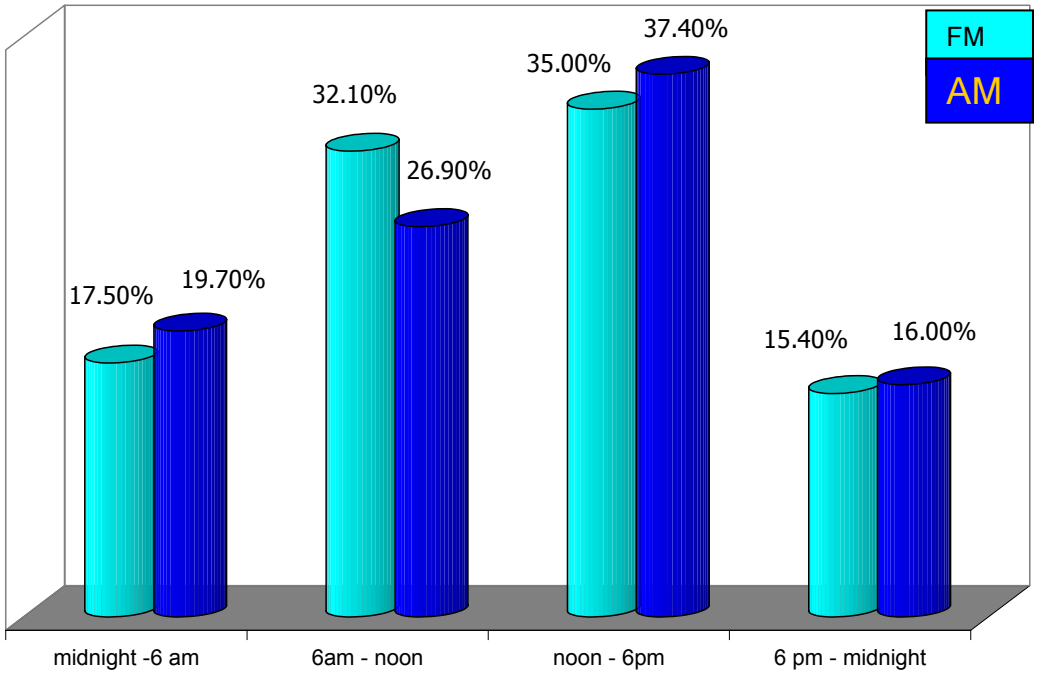


Figure 3: Distribution of advertisements from AM and FM radio stations over time



The top ten products that were most frequently advertised are shown in Table 5. The advertisement that was most often put on air was for "**ขี้ผึ้งเบอร์** 28 □□", or "28 A Balm". This medicine is composed of salicylic acid, Benzoic acid, Sulfur, and camphor. It is indicated for the relief of itching and peeling of the skin. The "28 A Balm" was targeted at those who work in damp and moist conditions. This particular product was advertised in 4 different spot advertisements. All of them gave information about the drug composition, brand name, indication, target population, administration method and manufacturer. They also mentioned that the medicine is not expensive.

Table 6: Top 10 products most frequently put on air

Type of product	Status	N
Keratolytic agent	Ready-packed drugs	178
Aching/Laxative	Traditional medicine	129
Aching	Traditional medicine	89
Aching/Laxative	Traditional medicine	106
Motion sickness/ Dizziness/Bloating	Traditional medicine	8
Aching	Traditional medicine	0
Pain relief/Fever	Ready-packed drugs	90
Pain relief	Ready-packed drugs	61
Vitamin supplement	Dangerous drug	68
Menstrual adjustment	Traditional medicine	65

The majority of medicines listed in Table 6 are traditional medicines. Four of them are in an elixir form. This kind of traditional medicine has been used for generations. Most of them are composed of several mixed herbs. These medicines were indicated to relieve body aches, to enhance health status, and some of them were claimed to be mild laxatives.

Two other modern pain-relief products were also found among the top 10 products. One of them was paracetamol ("**ซาร่า**" or "Sara"), and the other was a topical pain-relief oil ("**เพียแคม**" or "Peea-Cam"). "Sara" utilized only two different spot advertisements. Both of them were very short in length, but contained information about the generic name, indication,

dosage form, and target group. However, there was no information about recommended dose and how to appropriately administer the medicine.

“Peea-Cam” is a topical pain-relief oil composed of methyl salicylate, eucalyptus oil, menthol and eugenol. Three spot advertisements were used to promote only “Peea-Cam”. These advertisements informed the listeners about the ingredients, indication, dosage form, and target population. “Peea-Cam” also appeared in other advertisements that mainly focused on other drugs. These were considered 'reminder advertisements' because no other information was mentioned about it.

“New-Fa-Wid”, a multivitamin and mineral, was another modern medicine among the top 10 drug products. It was the focus in half of the 68 advertisements it appeared in; the rest were considered reminders. The advertisements included active ingredients, target population, and indication, but did not adequately give details of how to administer the medicine, or an appropriate dose of medicine.

“Flo-ra” is the only product targeted at women. “Flo-ra” was indicated for adjusting blood circulation and the menstrual cycle. It was also indicated for healthier and younger skin. About 50% of its advertisements were live announcements, and 30% contained promotional content.

The distribution of advertisements varied across the geographic area. The top 10 drug products advertised in Bangkok and Konkan were the same, and were considered comparable to the overall rating. Traditional herbal elixir products were often advertised on air. In Bangkok, the advertisement aired most often was for “28 A balm”, an occupation related drug. In Konkan, a drug for parasite infections was also commonly portrayed.

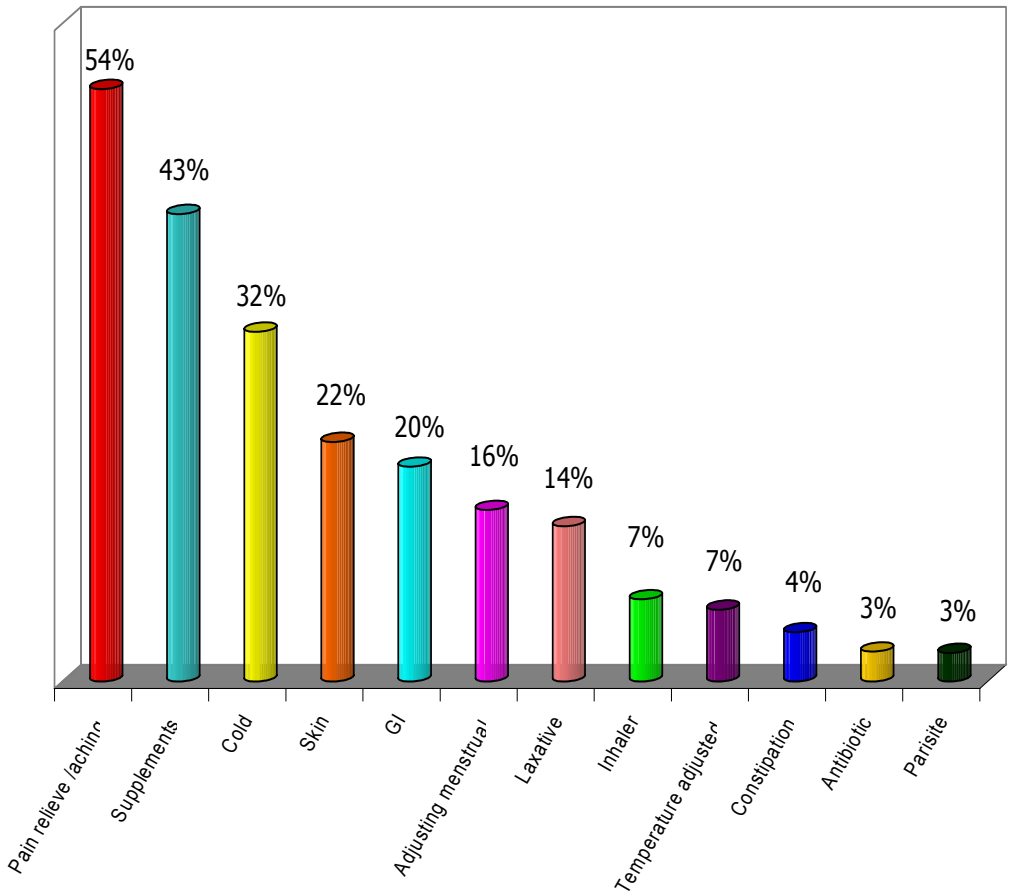
The most commonly advertised drugs in Chiengmai, Chonburi and Songkla were different. In Chiengmai pain relief products were the most common, while in Chonburi inhalers were prevalent, and in Songkla traditional medicines were most frequently aired. Antacid was an additional item found in Bangkok and Chiengmai, while antibiotics were additional in Chiengmai and Chonburi. The distribution of advertisements across the 5 provinces is shown in Table 7.

Among 2,431 broadcast advertisements, the 3 most common indications were pain relief, vitamin supplementation, and cold remedies. Other frequently found indications are shown in Figure 4. Information about drug indications related well to the type of products shown earlier.

Table 7: Distribution of advertisements across the 5 provinces

Bangkok	Chiengmai	Chonburi	Songkla	Konkan
Keratolytic agent	Menstrual adjustment	Pain/Fever	Keratolytic agent	Aching/ Laxative
Aching/ Laxative	Laxative	Inhaler	Temperature adjustment	Aching
Aching/Laxative	Pain reliever	Menstrual adjustment	Laxative	Pain
Aching	Antibiotics	Antibiotics	Fever	Aching/Laxative
Motion sickness/Bloating	Pain/Fever	Inhaler/insect bite	Fever	Aching
Aching	Fever	Pain reliever	Temperature adjustment	Aching
Vitamin supplement	Vitamin supplement	Inhaler	Hemorrhoid	Pain/Fever
Multipurpose Herb	Keratolytic agent	Menstrual adjustment	Menstrual adjustment	Fever
Pain/Fever	Antacid	All-purpose balm	Inhalant	Vitamin supplement
Antacid	Pain	Vitamin supplement	Menstrual adjustment	Motion sickness/Bloating

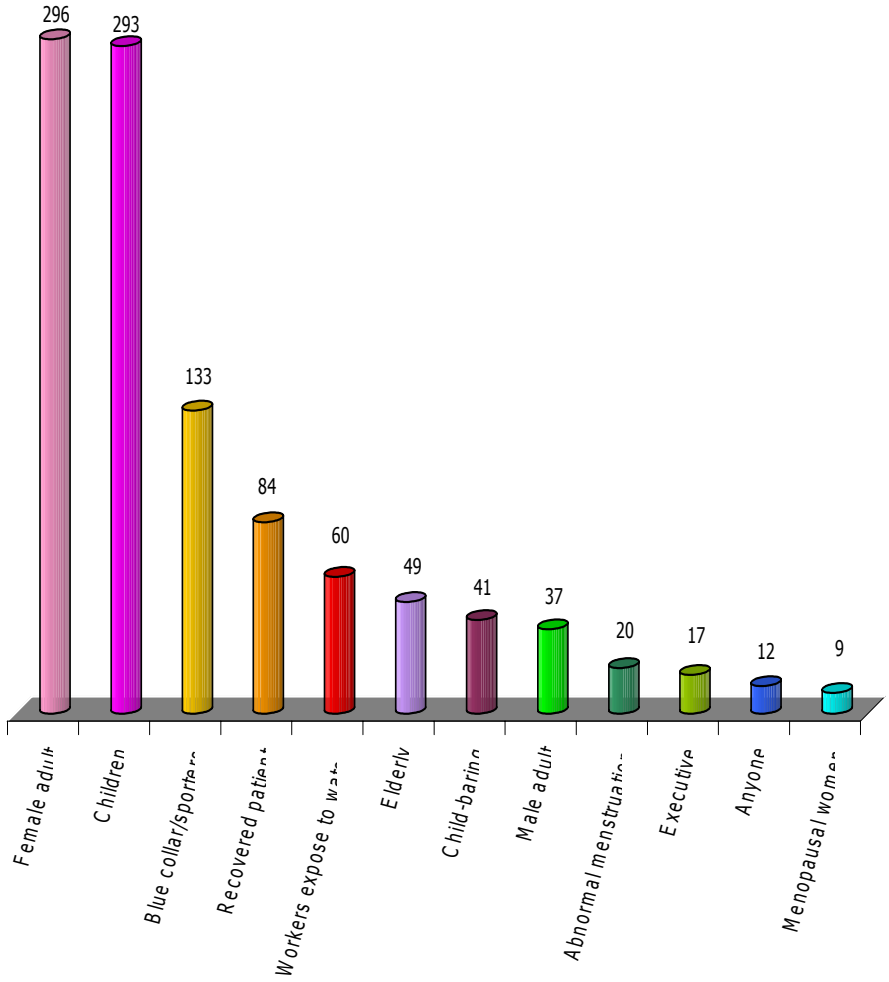
Figure 4: Common indications of drugs advertised across the 5 provinces



It has long been known that advertisements have a tremendous impact on decision making. Therefore, it is interesting to know what population groups were frequently targeted by what drug product. In 2,431 advertisements broadcast, 12 population groups were mentioned.

Females, followed by children, blue collar workers, sports people and recovering patients were among the most common groups targeted by the radio drug advertisements. Other population groups are reported in Figure 5.

Figure 5: Population groups targeted by drug advertisements



Among these 12 population groups, children and blue collar workers were the most vulnerable to misleading and false information. Drug products targeted at children and blue collar workers are shown in Tables 8 and 9, respectively. Antipyretics were commonly found among the group aimed at children, while pain relievers were commonly found among the blue collar group.

Table 8: Frequently broadcast products targeted at children

Product	Indication	Percentage
Sa-Ra	Fever	30.40
Baby doll	Anti-flatulance	19.50
Kae-kai-dek-tra-ngu	Fever	7.20
New-Fa-Wid	Vitamin supplement	7.20
Mymol	Fever	5.10
Other	Others	30.10

“Sa-Ra”, “Kae-kai-dek-tra-ngu”, and “My-mol” are all antipyretic drugs, but they were advertised differently. “Sa-Ra” and “My-mol” were targeted at both adult and children. For both products, tablets are the dosage form indicated for adults, while syrup is the dosage form indicated for children. “My-mol” gave more details about its target population group by saying that it is appropriate for kids from grade 7 till undergraduate students. A warning message was also included in “My-mol” adverts.

“Kae-kai-dek-tra-ngu” is a specific antipyretic product for children. The content of its advertisement included a situation of a family with a sick child. The mother was asking the father to buy medication to reduce their child’s fever by giving the product brand name. The brand was mentioned several times and at the end of the advertisement a warning message was given.

“Baby doll” is an antiflatulence drug commonly used in very young children. There were 3 different spot advertisements for this particular product, and all of them were short. No other details, but product brand and indication were mentioned.

Table 9: Frequent broadcasted products targeted at blue collar workers

Product	Indication	Percentage
Pog	pain relief	22.90
Peea-cam	pain relief	22.10
Dee-Nox	pain relief	20.60
Teb-Mong-Kon	pain relief	11.50
Other	Others	23.00

Even though all of the drug products targeted at blue collar workers were indicated for the relief of pain, they have different active ingredients and dosage forms. “Pog” and “Dee-nox” are in tablet form, while “Teb-Mong-Kon” is a capsule, and “Peea-Cam” is an oil solution. “Pog” and “Dee-nox” both have piroxicam as an active ingredient. These two products were considered dangerous drugs. However, not one of them mentioned how to appropriately administer the medication. Inappropriate use of these 2 drugs might lead to GI irritation. Long-term use could lead to a peptic ulcer.

“Teb-Mong-Kon” is a capsule composing of several Chinese herbs. It is considered a traditional medicine. Its target population, other than blue collar workers, was the elderly, male and female. Other important information was not indicated.

Content and quality of drug advertisements

2,431 drug advertisements were found to be broadcast of 525 unique drug advertisements. FDA standard criteria for drug advertisement and WHO ethical criteria for medicinal drug promotion were used as a framework for content analysis of these drug advertisements. Therefore, key concepts in the advertisement were brand name, generic name, number of products in each advertisement, drug indication, drug administration, dosage, dosage form, target population, name of the manufacturer or distributor, use of special promotions, drug price information, classification of drug, composition of drug. Some critical points have been evaluated such as whether the name of the drug causes the confusion as to its therapeutic properties and whether traditional drugs are adequately indicated.

Furthermore, the quality of the content in radio drug advertisements was evaluated by an expert from the FDA. The quality judgment of advertisements was based on whether the advertisement: is boastful of the drug's therapeutic properties; exaggerates the drug's therapeutic properties; contains certification of the therapeutic properties by any other person; presents the therapeutic properties as being capable of curing, mitigating, or preventing diabetes, cancer, paralysis, tuberculosis, leprosy, or disease of the brain, heart, lung, spleen and liver; causes to be understood that the drug has a substance as its chief or component ingredient, which in fact it has not or does have but at less than the quantity as caused to be understood; shows only a substance whose name is misleading regarding the drug's therapeutic properties. These radio drug advertisements were also judged on whether they

were correct as regulated by laws and FDA regulations, presenting misleading or false claims and violating the Drug Act.

The 525 unique advertisements collected in the survey were analyzed according to the Thai FDA and WHO ethical criteria. Key indicators for content analysis are shown in Table 10.

Table 10: Key indicators for content analysis of the radio drug advertisements

Key indicators			Frequency	Percentage
Brand name			489	93.14
Generic name			58	11.05
Indication	No		77	14.70
	Yes		448	85.30
		Over-claim	40	8.93
		False	59	13.17
		Mislead	98	21.88
		Abortion	0	N/A
		Sex enhancement	2	0.45
		Birth controlled	1	0.22
		Certified by credible person	8	1.79
		Mention about disease (CA,DM)	9	2.01
		MFD name is misleading	9	2.01
Dose			39	7.43
Administration method			253	48.19
Promotional method			43	8.19
Warning message			18	3.43
MFD			115	21.90

Data from the 525 unique drug advertisements broadcast in the selected provinces show that the majority of advertisements mentioned the product's brand name. However, only a small proportion (11%) provided the generic name.

A majority of advertisements (85%) provided information about indication. However, some of them were found to make misleading (22%), exaggerated (9%) and false (13%) claims. Very small proportions of drug advertisements were found to violate the Advertisement Act by indicating that they were used for enhancing sexual function, or for preventing pregnancy. Moreover, some were found to disregard the law by mentioning chronic or severe diseases such as diabetes or heart disease.

Only 7% of drug advertisements recommended an appropriate dose, while almost 50% told listeners about how to administer the medication.

About 8% of advertisements tried to enhance sales by other promotional methods. Gift exchange was the most common practice. For example, collect three boxes of product A, and send them to a specified address in exchange for a fashionable T-shirt.

A warning message was found in only 3% of advertisements. None of them clearly depicted just what consumers should be aware of. “Read the label or the leaflet before use” was the only phrase used to warn consumers to pay attention to possible side effects or contraindications.

Names of manufacturers were present in 20% of the advertisements collected. Some advertisements gave additional information, for example, a telephone number and contact address.

Overall, 55% advertisements were judged not to abide by the law. About 70% of live and 40% of spot advertisements were found not to conform to the law. Among advertisements judged to be unlawful, traditional medicines, followed by dangerous drugs, were particularly common. The percentage of unlawful drug advertisements is shown in Figure 6. Of all drug categories, dangerous drug advertisements were found to be particularly liable to violations (see Figure 7).

Figure 6: Percentage of unlawful drug advertisements by drug classification

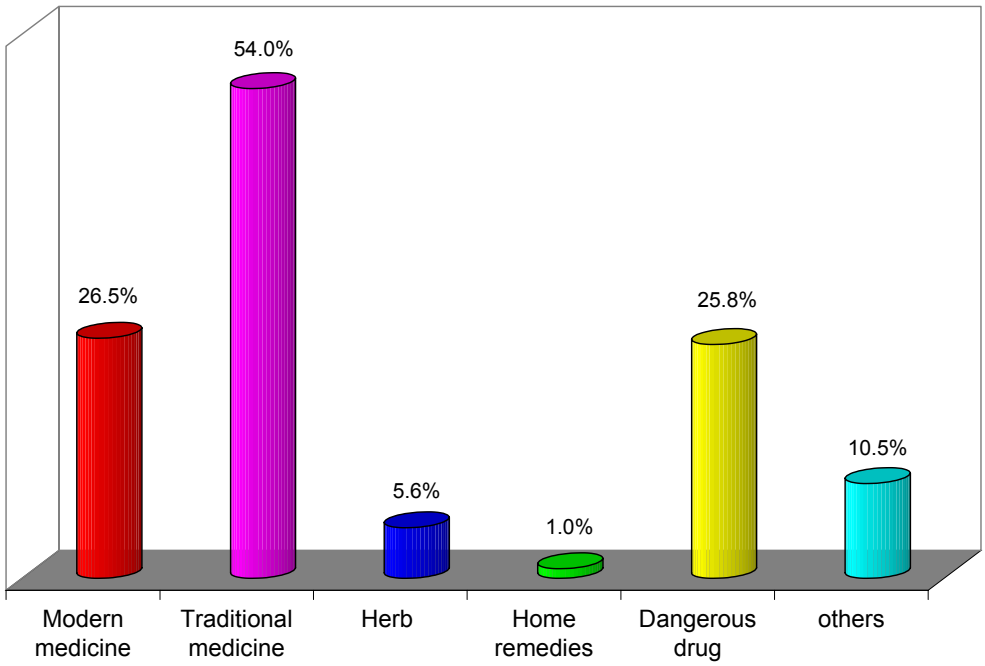
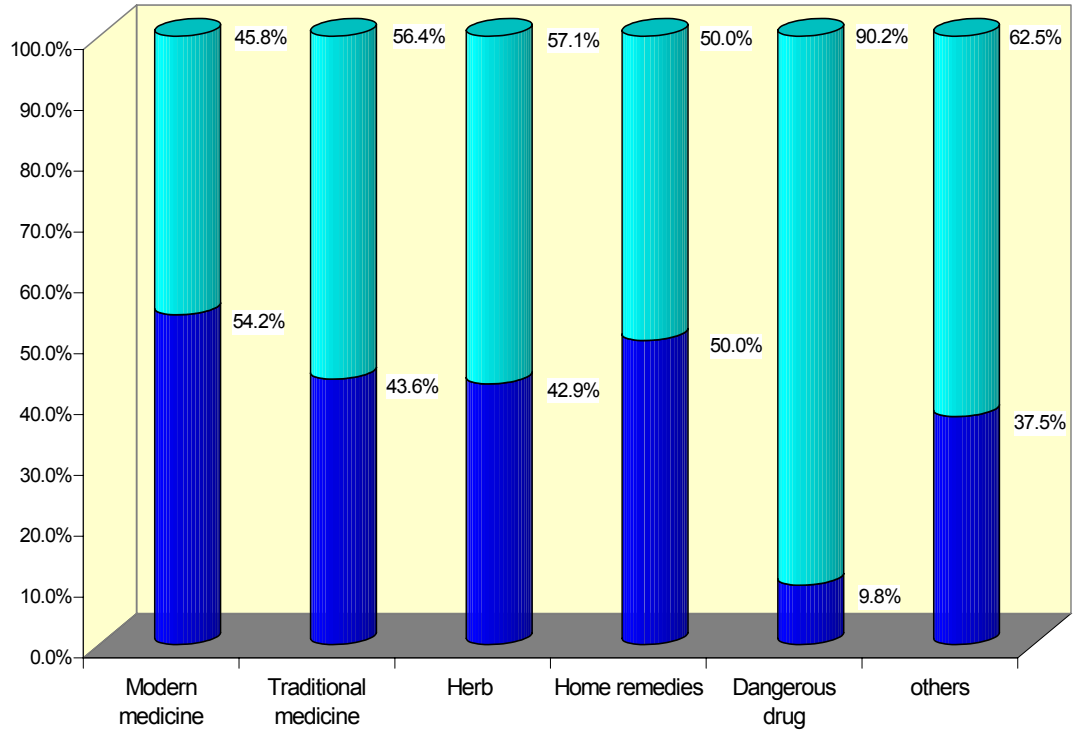


Figure 7: Proportion of unlawful advertisements within each drug classification



4. Discussion and Recommendations

The current study has reviewed Thailand's existing drug advertisement regulatory system. An evaluation of the effectiveness of the present mechanism has also been undertaken. Since radio broadcasting can reach many people of different socioeconomic levels, drug advertisements on radio were tape-recorded to evaluate the regulation system's effectiveness. We see that the regulatory framework and standard criteria for drug advertisement are quite complete, except for the punishments dealt out. Revision of the fine amount and length of imprisonment might be needed, since they have not been updated with the present currency value.

Although decentralizing drug advertisement regulation from the FDA to the Provincial Health Offices is promising in theory for better post-marketing surveillance, practically, different provincial health officers have different standards in the judgment of drug advertisements. For example, some drug advertisements were approved in one province, but not in other provinces. Inconsistency among government agencies can cause confusion for

the drug industry, advertising agencies, radio broadcasters, and other related parties. The other weak point found from interviews with provincial health officers concerned their inadequate knowledge and skill in detecting illegal drug advertisements, and the lack of information from the FDA. For example, when a drug advertisement was suspected of being illegal by a provincial health officer, often they had to confirm whether the advertisement had been approved by the FDA before taking any legal action. In addition, in detecting whether the content of an advertisement had been modified, a health provincial officer had to confirm this with the FDA as well. Official information from the FDA is crucial; however, it is not easily accessed. This problem would be improved if information was distributed between central and local government agencies via the internet. Most of the time, the officers receive verbal complaints from the public. However, monitoring of drug advertisements needs tangible evidence, for example, a tape-recording from a radio station. A problem arises when the officers have to get evidence from radio stations. Cooperation from radio stations is necessary, but sometimes is hard to get. Good cooperation will occur if a consumer protection mindset is encouraged among radio station staff.

In a competitive commercial world, profit motives can create an environment that does not encourage ethical behavior. A strategy of role models may be an effective means of promoting ethical behavior. These ethics needed to be promoted by the MOPH. Issues of politics, which occur in all post-marketing surveillance processes, sometimes obstruct good practices. It seems that this is symptomatic of broader changes in Thai culture. Faithfulness has gradually disappeared in Thai society. Fidelity must be indoctrinated in Thais.

Cooperation from pharmacists and other health care professionals to assist in drug advertisement monitoring and informing the FDA should be encouraged since they have better knowledge of drugs. Dissemination of regulation information to all sectors, such as the public, advertising agencies, media buying agencies, radio broadcasters, disc jockeys, drug distributors and drug companies are useful activities that the FDA must do. With the government manpower limitations for post-marketing surveillance, the campaign to encourage consumers to report suspicious illegal drug advertisements should be continued by the FDA as well.

Despite the increasing popularity of modern Western medicine, traditional Thai medicine is still widely used in everyday self-care, especially among rural Thais. Thai traditional

medicine is a heritage handed down from generation to generation. Recently, the Thai government and private organizations have worked together to restore the value and popularity of traditional Thai medicine. Furthermore, the Ministry of Public Health has promoted the use of herbal medicine, and the Center for Herbal Information has collected data and performed scientific studies on this. Along with being alert to restoring the value of Thai traditional medicine, the quality and truth of its advertisement contents should not be ignored since in the current study the most frequent drug advertisements were for traditional medicines and 56.4% of all traditional drug advertisements contravened the regulations (Figure 6).

Periodically, active monitoring must be scheduled by both the FDA and provincial health offices. If staff in the government sector are still overburdened, considering alternative monitoring mechanisms, for example, outsourcing to appropriate, qualified NGOs to monitor post-marketing drug advertisements, may be required.

Although the consequences from misleading, exaggerating and illegal drug advertisements are not an urgent life-threatening issue, the inappropriate use of drugs that is induced by these advertisements forms a useless investment and can cause long-term health problems for the Thai population. In addition, it causes over-consumption of drugs. The suggestions made above should help to ensure better consumer protection and eventually reduce drug consumption expenditure.

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