



**T.C.**

**YEDITEPE UNIVERSITY**

**GRADUATE INSTITUTE OF HEALTH SCIENCES**

**DEPARTMENT OF PHARMACOECONOMY AND**

**PHARMACOEPIDEMOLOGY**

**PHARMACEUTICAL ADVERTISEMENTS  
ANALYSIS IN HEALTH JOURNALS: A  
COMPARATIVE STUDY IN TWO SELECTED  
HEALTH JOURNALS IN TURKEY**

**MASTER THESIS**

**PHARMACIST**

**MERVE COŞKUNOĞLU**

**ISTANBUL 2015**



**T.C.**

**YEDITEPE UNIVERSITY**

**GRADUATE INSTITUTE OF HEALTH SCIENCES**

**DEPARTMENT OF PHARMACOECONOMY AND**

**PHARMACOEPIDEMIOLOGY**

**PHARMACEUTICAL ADVERTISEMENTS  
ANALYSIS IN HEALTH JOURNALS: A  
COMPARATIVE STUDY IN TWO SELECTED  
HEALTH JOURNALS IN TURKEY**

**MASTER THESIS**

**PHARMACIST**

**MERVE COŞKUNOĞLU**

**SUPERVISOR**

**NAZLI ŞENCAN, PhD**

**ISTANBUL 2015**

## THESIS APPROVAL FORM

Institute : Yeditepe University Institute of Health Sciences  
Programme : Pharmacoeconomy and Pharmacoepidemiology  
Title of the Thesis : Pharmaceutical Advertisements Analysis In Health Journals: A Comparative Study In Two Selected Health Journals In Turkey  
Owner of the Thesis : Ecz. Merve COŞKUNOĞLU  
Examination Date : 17.04.2015

This study have approved as a Master Thesis in regard to content and quality by the Jury.

Chair of the Jury: Doç.Dr.Mesut SANCAR  
Ecz. Fak. Klinik Ecz. A.D.



Supervisor: Yrd.Doç.Dr.Nazlı ŞENCAN  
Ecz. Fak. Eczacılık  
İşletmeciliği A.D.



Member/Examiner: Yrd.Doç.Dr.Çiğdem KASPAR  
Tıp Fak. Biyoistatistik ve  
Bilişim A.D.

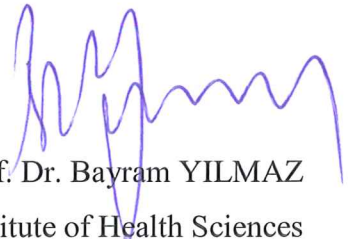


### APPROVAL

This thesis has been deemed by the jury in accordance with the relevant articles of Yeditepe University Graduate Education and Examinations Regulation and has been approved by Administrative Board of Institute with decision dated 20.04.2015..... and numbered 2015/11-1

Prof. Dr. Bayram YILMAZ

Director of Institute of Health Sciences



## **DEDICATION**

---

**to my family and Kerem ...**



## ACKNOWLEDGEMENTS

I would like to express my thanks and regards for following people who supported me throughout this study.

First of all, I would like to thank to dean Prof. Dr. Hülya Akgün and all teaching staff for their guidance throughout my academic career in the School of Pharmacy at Yeditepe University.

Then, I wish to give my thanks to my Thesis Committee, to chair my study and for their guidance, and Assistant Prof. Dr. Nazlı Şencan for her endless support as my advisor.

I also wish to thank all the team of “Formsante” and “Medical Tribune” for sharing information during the data collection for this study.

I am so grateful for the endless support of my family and Kerem throughout this study.

## TABLE OF CONTENTS

APPROVAL.....	ii
DEDICATION .....	iii
ACKNOWLEDGEMENTS .....	iv
TABLE OF CONTENTS .....	v
LIST OF TABLES .....	vi
LIST OF FIGURES .....	vii
LIST OF ABBREVIATIONS .....	viii
ABSTRACT (ENGLISH) .....	ix
ABSTRACT (TURKISH) .....	x
1. INTRODUCTION.....	1
1.1.Definitions.....	1
1.2. The Importance of Pharmaceutical Advertising.....	3
1.3. The Impacts of Pharmaceutical Advertising on Healthcare Professionals and Consumers.....	4
1.4. Overview of Pharmaceutical Advertising Regulations/Models Worldwide.....	9
1.5. Liability on the Information Presented in Pharmaceutical Advertising.....	12
1.6. Pharmaceutical Promotion in Turkey.....	15
2. AIM OF THE STUDY.....	18
3. METHODOLOGY.....	19
3.1. Selection Criteria and Search Strategy.....	19
3.2. Data Collection.....	20
3.3. Data Analysis.....	21
3.4. Evaluation.....	21
3.5. Limitations of the Study.....	23
4. RESULTS AND DISCUSSION.....	24
5. CONCLUSION.....	39
6. REFERENCES.....	41
7. APPENDICES.....	45
Appendix 1- Score Tables.....	45
8. CURRICULUM VITAE.....	46

## LIST OF TABLES

<b>Table 1.</b> Distribution of Numbers of Journals' Issues and Pharmaceutical Advertisements.....	24
<b>Table 2.</b> Readability of Information in Pharmaceutical Advertisements in Journal B.....	25
<b>Table 3.</b> Product Information Availability in Pharmaceutical Advertisements in Journal B.....	27
<b>Table 4.</b> Availability of References on Product Information in Pharmaceutical Advertisements .....	28
<b>Table 5.</b> Product Package Images in Pharmaceutical Advertisements.....	29
<b>Table 6.</b> Picture Contents in Pharmaceutical Advertisements.....	29
<b>Table 7.</b> Pharmaceutical Class of Products in Pharmaceutical Advertisements.....	30
<b>Table 8.</b> 'Not a Drug' Claim in Pharmaceutical Advertisements.....	31
<b>Table 9.</b> Pharmaceutical Advertisements, Journal A.....	32
<b>Table 10.</b> Pharmaceutical Advertisements, Journal B.....	33
<b>Table 11.</b> Company Contact Information in Pharmaceutical Advertisements .....	34
<b>Table 12.</b> Social Media Information in Pharmaceutical Advertisements.....	34
<b>Table 13.</b> Referenced Health Associations in Pharmaceutical Advertisements.....	35
<b>Table 14.</b> Information on Price in Pharmaceutical Advertisements in Journal B.....	36
<b>Table 15.</b> Warnings/Precautions, Adverse Effect Information Availability in Pharmaceutical Advertisements in Journal B .....	37

## LIST OF FIGURES

<b>Figure 1. Drug Facts Box Example (one page summary of benefit and harm data for drug indications).....</b>	<b>14</b>
<b>Figure 2. Referenced Health Associations in Pharmaceutical Advertisements in Journal A.....</b>	<b>36</b>

---

## LIST OF ABBREVIATIONS

AE:	Adverse Event
API:	Active Product Ingredient
DTC:	Direct to Consumer
FCA:	False Claim Act
FDA:	Food and Drug Administration
MHRA:	Medicines and Healthcare Regulatory Agency
MoH:	Ministry of Health
OTC:	Over the Counter
SPSS:	Statistical Package for the Social Sciences
USA:	United States of America
WHO:	World Health Organization

## ABSTRACT (ENGLISH)

**Coşkunoğlu, M. (2015). Pharmaceutical Advertisements Analysis In Health Journals: A Comparative Study In Two Selected Health Journals In Turkey. Yeditepe University, Institute of Health Sciences, Department of Pharmacoconomy and Pharmacoepidemiology, MSc thesis, Istanbul.**

The advertisements of pharmaceutical products are considered to have different contents in the health journals that reach to healthcare professionals and health journals that reach public. Detailed pharmacological information about the products are presented to healthcare professionals. The aim of this study is, to identify similarities and differences of advertisements of the related product categories in the selected health journals and parallel to this; to reveal if the contents of advertisements show correspondence to regulations. To meet the research criteria, two health journals are chosen. Each of them publishes every month, some issues once in 2 months throughout 2012, worldwide and has also Turkey editions. Advertisements of pharmaceutical products are analysed retrospectively and comparatively by the coding system designed by the researcher. The content differences of pharmaceutical advertisements that presented on both journals and their content differences compared with the assistance of SPSS 21.0 statistics programme. Pharmaceutical advertisements are a communication channel between pharmaceutical companies and consumers or healthcare professionals. Brief medical information about pharmaceutical products are mostly presented to healthcare professionals. Both journals are parallel with the pharmaceutical promotion regulations in Turkey. But still there are some inconsistencies with the regulations. This situation may be related to the uncertain regulation criteria for the pharmaceutical advertisement content. Pharmaceutical advertisements should be taken seriously. Because, if readers pay no attention on pharmaceutical advertisements, they may be influenced the way the advertiser intends. Considering pharmaceutical advertisements as a factor on public health, promotion regulations should define certain criteria about pharmaceutical advertising.

**Key words:** Pharmaceuticals, Drug Advertisements, Drug Promotion, Regulations for Pharmaceutical Promotion, Pharmaceutical Advertisement



## ABSTRACT (TURKISH)

**Coşkunoğlu, M. (2015). Sağlık Dergilerindeki Farmasötik Ürün Reklamlarının Analizi: Türkiye’de Seçilen İki Dergide Karşılaştırmalı Bir Çalışma. Yeditepe Üniversitesi Sağlık Bilimleri Enstitüsü, Farmakoekonomi ve Farmakoepidemioloji BD., Master Tezi. İstanbul.**

Sağlık mesleği mensuplarına ve topluma ulaşan sağlık yayınlarında farmasötik ürün reklamlarının içerik olarak farklı olduğu ve sağlık mesleği mensuplarına ürünler ile ilgili daha detaylı farmakolojik bilgi sunulduğu varsayılmaktadır. Bu çalışmada amaç, sağlık mesleği mensubu olan kişilere ve topluma ulaşan sağlık yayınlarında bulunan ilgili kategoriye giren ürünlerin reklamlarındaki benzerlikleri veya farklılıkları tespit etmek ve bunun paralelinde; bilimsel ve popüler sağlık dergilerindeki farmasötik ürün reklamlarının tanıtım yönetmeliğinde öngörülen durumlara uygunluğunu ortaya koymaktır. 2012 yılı içerisinde, 12 ay boyunca ayda bir kez, bazı sayıları 2 aylık olarak yayınlanan, araştırma amacına uygun kriterlere göre seçilen, yurtdışında yayınlanan ve Türkiye edisyonu olan iki sağlık yayınında yer alan farmasötik ürün reklamları araştırmacı tarafından oluşturulan kodlama sistemi üzerinden retrospektif ve karşılaştırmalı olarak incelenmiştir. İki dergide yer alan farmasötik ürün reklamları ve reklamların içerikleri arasındaki farklar SPSS 21.0 istatistik programı yardımıyla karşılaştırılmıştır. Farmasötik ürün reklamları, ilaç firmaları ve tüketiciler veya sağlık mesleği mensupları arasında bir iletişim kanalıdır. Farmasötik ürün özellikleri ile ilgili medikal bilgiler çoğunlukla sağlık mesleği mensuplarına sunulur. İki yayın da temel olarak Türkiye’deki regülasyonlara paraleldir; fakat, hala bazı uyumsuzluklar vardır. Bu durum, tam olarak belirlenmeyen farmasötik ürün reklam içerikleri ile ilgili regülasyon kriterlerine bağlı olabilir. Farmasötik ürün reklamları ciddiye alınmalıdır. Eğer okuyucular farmasötik ürün reklamlarına dikkat etmezlerse, reklam sahibinin amaçladığı yönde etkilenebilir. Farmasötik ürün reklamlarının halk sağlığı üzerinde bir faktör olduğunu düşünerek, promosyon regülasyonlarının farmasötik ürün reklamlarıyla ilgili kesin kriterleri belirlemesi gerekir.

**Anahtar kelimeler:** Farmasötik Ürünler, İlaç Reklamları, İlaç Promosyonu, Farmasötik Promosyon Regülasyonları, Farmasötik Ürün Reklamı

## 1. INTRODUCTION

Pharmaceutical advertising is a momentous element of pharmaceutical industry marketing around the world and pharmaceutical advertising in journals is considered by industry to be its most profitable marketing strategy. Therefore pharmaceutical companies do not hesitate to spend big amount of money on advertising in broadcast and print media. Advertising has a significant effect on demand for pharmaceutical products but it is important to understand the evolution of such advertising and its regulations.

Advertising of pharmaceutical products ought to be a paragon of public science communication. Marketing strategies work in two ways; on one hand, pharmaceutical advertising simplifies messages and thus facilitates understanding of information usually requiring specialized knowledge; on the other hand, pharmaceutical advertising is an authority figure as it is one of the most important source on financial support for journals as well as their main form of publicity.

The quality of information in pharmaceutical advertisements has been discussed for years. It is important to understand the effects that pharmaceutical promotion has on prescribing and use of medication.

In this study, advertisements of all products that is considered as pharmaceutical products are focused. Also in this study, all products like drug, dermocosmetics, Over-The-Counter (OTC), nutritional supplements, medical devices are mentioned as “pharmaceutical products”. And physicians, dentists and pharmacists are mentioned as “healthcare professionals”.

### 1.1 Definitions

What is considered a drug rather than a food varies between cultures. The status of a substance may be uncertain with respect to both whether it is a drug and how it should



be classified at all. There is no single, precise definition, as there are different meanings in drug control law, government regulations, medicine, and colloquial usage (1).

In pharmacology, a drug is "a chemical substance used in the treatment, cure, prevention, or diagnosis of disease or used to otherwise enhance physical or mental well-being" (1). A drug can also be defined as any chemical that affects the way your body works. Drug is a substance which may have medicinal, intoxicating, performance enhancing or other effects when taken or put into a human body. Drugs may be prescribed for a limited duration, or on a regular basis for chronic disorders (2).

Over-the-counter drugs are pharmaceuticals sold directly to a consumer without a prescription from a healthcare professional, as compared to prescribed drugs, which are sold only to consumers possessing a valid prescription. In many countries, OTC pharmaceuticals are selected by a regulatory agency to ensure that they are ingredients that are safe and effective when used without a physician's care. OTC pharmaceuticals are usually regulated by active pharmaceutical ingredients (APIs), not final products (3).

A medical device is an instrument, apparatus, implant, in vitro reagent, or similar that is used to diagnose, prevent, or treat diseases and does not achieve its purpose through chemical action within or on the body (which would make it a drug) (4).

Dermocosmetics are a special kind of cosmetics developed for precisely defined skin types or complaints. Formulated in cooperation with dermatologists, they are distributed exclusively in pharmacies. Apart from cosmetic functions, their role is to complement skin diseases treatment (e.g. atopic dermatitis, eczema). Dermocosmetics contain ingredients, and these ingredients' therapeutic effect has been confirmed in numerous dermatological or laboratory tests.

A nutritional supplement also known as dietary supplement, is a preparation intended to support the diet and provide nutrients, such as vitamins, minerals, fibers, fatty acids, or amino acids, that may be missing or may not be consumed in sufficient quantities in a diet. Some countries define dietary supplements as foods, while in others they are defined as 'drug' or natural health products.

Promotion is a term used frequently in marketing activities. Promotion has three basic objectives;

- To present information to consumers,
- To increase demand,
- To differentiate a product.

Advertising is one of the elements of the promotion activities. But it is considered to be the most effective way.

## **1.2. The Importance of Pharmaceutical Advertising**

Advertising of pharmaceutical products is without a doubt a part of product label so pharmaceutical advertisements are included in journals, newspapers. Promotion of pharmaceutical products plays a major role in the market. Pharmaceutical manufacturers spend a lot of money and time on promotion, conferences and on advertisements in broadcast and print media. It is important to understand the effects of pharmaceutical promotion on physicians' prescribing habits and on consumers/patients use.

Pharmaceutical advertising also has beneficial effects and harmful effects. Healthcare organizations and authorities all over the world attempt to control the promotion of pharmaceuticals and implemented regulations to control the consumer/patient safety.

Most pharmaceutical companies are international companies. Generally, every pharmaceutical company has their own ethical standards based on the global standards and regulations.

Promotional advertisements or materials should support the convenient use of pharmaceuticals by presenting information accurately, without overstatement and must follow all local laws and company procedures. Despite the regulations and control on promotion of pharmaceuticals, the quality of information in advertisements has been questioned from past to present.

### **1.3. The Impacts of Pharmaceutical Advertising on Healthcare Professionals and Consumers**

Advertising of pharmaceutical products is affecting consumers/patients, physicians, and healthcare organizations. For decades, pharmaceutical companies promoted pharmaceuticals exclusively to physicians.

It is considered that Direct-To-Consumer (DTC) pharmaceutical advertising increases pharmaceutical sales and leading to a potential overuse. Concern about such advertising has increased recently owing to the withdrawal from the market of heavily advertised pharmaceuticals to carry serious risks.

Given the paternalism that was typical of physician-patient relationship in the middle decades of the twentieth century, promoting prescribed pharmaceuticals to the consumers was inconceivable (5). But in the twenty first century, pharmaceutical industry propose its marketing approach excessively to consumers.

The current spectrum of pharmaceutical advertisements aimed at consumers and healthcare professionals mainly fall into three categories;

- Health-seeking advertisements educate consumers about a disease or medical condition. The specific brand name is not mentioned.
- Advertisements that provide the name of the pharmaceutical product and few information but present nothing about use or safety.
- Product specific advertisements mention a pharmaceutical therapy by name, describe its therapeutic use, effectiveness and safety.



To understand DTC pharmaceutical advertising from consumer perspective, one must consider the consumer as well as the advertisement and pharmaceutical industry (6). These pharmaceutical advertisements may lead to confusion and inaccurate perceptions of a product's effectiveness and safety.

In a survey study in year 2000, USA respondents are being asked whether they pay attention to DTC pharmaceutical advertisements and if they had seen an advertisement for each of ten drugs being extensively marketed at that time. On average, respondents were aware of advertisements for 3.7 of the 10 drugs. Women were aware of advertisements for more drugs than men were. Awareness of DTC pharmaceutical advertisements was very much associated with having been diagnosed with a condition for which a given drug was advertised. In addition, people who were taking other medications, who had more exposure to journals, who were in poor health condition, and who had better healthcare coverage seemed more aware of DTC pharmaceutical advertisements (5).

Journal advertisements are one of the important sources of the product information to physicians. Despite the regulations and controls on promotion of pharmaceuticals worldwide, information about products provided in pharmaceutical advertisements has been criticized in several studies because of its poor quality.

As pharmaceutical advertisements are an important source for physicians, advertisements in medical journals, especially for newly marketed products, should be of high quality to support physicians to practice evidence-based medicine.

Pharmaceutical advertisements should present a fair balance between information relating to side effects/contraindications and information relating to effectiveness of the pharmaceuticals. Because physicians may learn about pharmaceuticals from educational material supplied directly by pharmaceutical companies.

Most importantly, complete information on benefits and risks of products provided in pharmaceutical promotion is important for physicians in order to determine the most appropriate treatment for patients.

Physicians' attitudes toward DTC pharmaceutical advertising are neutral at best and more often quite negative. In a study of 454 USA family physicians in 1997, about four-fifths of physicians believed that DTC pharmaceutical advertising was "not a good idea" (7). Pharmaceutical advertisements may contain misleading and incorrect information (8) and this information may be associated with inappropriate prescribing (9).

Herxheimer and colleagues examined pharmaceutical advertisements from 18 countries and found that pharmaceutical advertisements from journals in developed and developing countries lacked essential information (10). Thus, information presented in pharmaceutical advertisements in countries where physicians are eager for educational information on products, are not enough.

One way that pharmaceutical companies carry through to educate physicians would be linking pharmaceutical advertisements with more detailed information. Advertisers mostly respond to requests for additional information, slowly or not at all and also tend to be promotional rather than educational. Advertisers often fail to convey important information about pharmaceuticals.

During 1980's, especially in USA, pressure grew for pharmaceutical advertising to be improved and in 1988, World Health Organization (WHO) updated ethical criteria as part of its programme on rational use of pharmaceuticals. WHO list requirements for all advertisements to physicians and other healthcare professionals. Such advertisements should usually include:

- the name (s) of the active ingredient (s) using either international nonproprietary names, (INN) or the approved generic name of the product,
- the brand name,
- content of active ingredient(s) per dosage form or regimen,
- names of other ingredients known to cause problems,
- approved therapeutic uses,
- dosage form or regimen,
- side effects and major adverse reactions,

- warnings/precautions, contraindications,
- major interactions,
- name and address of manufacturer or distributor,
- reference to scientific literature as appropriate (11).

The pharmaceutical advertisement validity indicators used refer to the inclusion of approved scientific data, the number of bibliographic references and the accessibility of these references to physicians, as well as coherence between the epidemiological data presented in the advertising claims and the research findings (11).

People who are exposed to pharmaceutical advertisements must realize that sometimes regulatory guidance do not have much influence on their content. And another thing is the difficulty on reading of the text materials in the advertisements. Difficulty on reading comes in two ways; first one is the scientific terms of the content. Because everyone may not understand scientific terms in advertisements, websites or brochures. Second one is the small punto of the written text, that is hard to read.

Another issue about pharmaceutical advertisement content is the risk information about the products. Risk information is mostly not presented, or presented in one continuous segment and less extent. The brief summary sections containing detailed risk information are particularly difficult. Some of these sections including many unexplained scientific terms and extensive clinical research data drawn directly from the approved professional labeling (12).

Despite effectiveness is one of the main claims used in pharmaceutical advertising, the epidemiological evidence such as data on risk reduction or on the number of patients treated, which could be used to support such claims, are not always presented.

DTC pharmaceutical advertisements may be misleading and it can make patients to choose treatments that may not be the best choice for them. The advertisements analyzed contain relatively little information. Many advertisements lack clinically important information on contraindications, warnings/precautions, and adverse effects.



As expected, advertisements mostly aim to attract attention to the brand name (13). Most pharmaceutical advertisements fail to provide enough information on warnings/precautions. Usually boxed warnings are presented in product information part. Pharmaceutical companies often claim that representatives give physicians (or pharmacists) scientific information. This may be true, but at the same time they “sell” the product. At local pharmacies, it is common to see a sudden change of prescribing habit after a representative has visited physicians (14).

DTC pharmaceutical advertising has also been controversial in light of postmarketing revelations regarding problems with safety use. Specifically, clinical trials that are required for pharmaceutical product approval are typically not designed to detect rare but significant adverse effects, and contemporary methods of postmarketing surveillance often fail to connect adverse effects that have a high rate of background prevalence with the use of particular pharmaceuticals (15).

Commercial sources of information are known to have greater influence than scientific sources on general practitioners (16). And with this information, it can be imagined how important the quality of pharmaceutical promotion. Physicians generally use promotion as a source of information, especially use pharmaceutical advertising as main source of information for newly marketed pharmaceuticals. For example, physicians who work private in practice (not at hospital) or who graduated a long time ago tend towards using promotion as a source of information. Therefore, information provided in pharmaceutical advertisements should be of high quality to support physicians to provide evidence-based medicine (17).

The expectation that pharmaceutical advertisements should inform rational prescribing by presenting complete safety and efficacy information may not be realistic since advertisements mostly serve a marketing function and are not designed to train physicians to properly prescribe.

Proponents of pharmaceutical advertising to healthcare professionals emphasize the important role advertisements play in educating physicians or other prescribers about

new pharmaceuticals, and advertisements may serve to influence prescribing by providing information to physicians. The effects of pharmaceutical promotion on healthcare professionals may directly influence their prescribing habits. So physicians should ensure that they are informed by the clinical literature, not by marketing materials.

Given the high risk associated with many advertised pharmaceuticals, any tendency of advertisements to encourage inappropriate prescribing may pose dangers to patients. If the Food and Drug Administration (FDA) is truly committed to improving prescribing and protecting the health of the public, FDA should demand that content, important for safe and effective prescribing, is consistently presented in physician-directed advertisements (18). Marketing research has consistently shown that journal advertising is the most profitable form of pharmaceutical market (19). So advertising always will be the most important and common way of pharmaceutical promotion.

#### **1.4. Overview of Pharmaceutical Advertising Regulations/Models Worldwide**

Despite the availability of regulations and control of pharmaceutical promotion worldwide, pharmaceutical advertising in health journals has been criticized for being of poor quality. FDA has a broad mandate to protect public health by ensuring the safety and efficacy of pharmaceuticals. FDA may improve the USA system for regulating pharmaceutical advertising.

The British model for regulating pharmaceutical marketing provides insight into how FDA should proceed. If FDA clarifies regulation, collaborates with the pharmaceutical industry, and expedites dispute resolution, regulation of promotion would become more consistent and efficient. FDA should also re-evaluate if the False Claim Acts\* (FCA) is the appropriate enforcement mechanism for promotion claims (20).

\*(also called the "Lincoln Law") is an American federal law that imposes liability on people and companies (typically federal contractors) who defraud governmental programs.



Physicians may prescribe in any manner their medical judgement deems appropriate. FDA can not interfere with physician practices. However, FDA can tightly regulate product label and pharmaceutical promotion. Physicians may choose to prescribe a pharmaceutical for an indication unapproved by FDA. Because it is legal for physicians to prescribe pharmaceuticals for situations not indicated on product label.

Internationally, WHO have developed guidelines for pharmaceutical advertising, and established ethical criteria for pharmaceutical promotion. These criteria constitute general principles for ethical standards that can be adapted by governments to national circumstances (17).

These guidelines provide recommendations on the type and quality of information that should be included in pharmaceutical advertisements in health journals. In most countries, regulation of the quality of pharmaceutical advertisements in health journals is a responsibility of government agencies (21) and the pharmaceutical industry (22).

Several studies have assessed the quality of pharmaceutical advertisements and examined a range of different outcome measures such as availability of product information, quality and availability of references provided to support the claims, presentation of scientific results in terms of absolute or relative risk reductions. The overall results of these studies have never been synthesized. A systematic study would provide researchers with information on standards of pharmaceutical advertisements that may reflect the effectiveness of current guidelines and regulations (23,24,25).

As mentioned before, to provide a basis for a code of conduct in pharmaceutical advertising, WHO established ethical criteria for pharmaceutical promotion. The pharmaceutical advertisement validity indicators used refer to the inclusion of scientific data, references and the accessibility of these references as well as coherence between the claimed data presented in advertisements and the research findings. WHO pharmaceutical promotion validity criteria basically refer to scientific and epidemiological data, and to the accessibility of documents supporting advertising claims. However, as images are one of the main tools employed in pharmaceutical

advertising to transmit information and reflect collective perceptions, these criteria should include the graphic representation of the consumer as a further validity criterion. This would allow determination of whether the sex or age frequency represented in the advertisement is consistent with the epidemiological data, that is, the sex and age prevalence of the health problem for which a certain pharmaceutical is commercialized (26).

Speaking of models for regulating pharmaceutical promotion, the British model for regulating prescribed pharmaceuticals relies heavily on self-regulation, efficient dispute resolution, and extensive guidance materials. This system embraces longstanding British traditions of flexibility and privatized self-regulation. The pharmaceutical marketing complaint resolution in Britain is expeditious. This provides pharmaceutical companies with guidance on marketing practices and transparency in government regulation. These characteristics of the British system provide important lessons for improving the USA model (20).

The current British system came into being under a regulatory agency, the Medicines and Healthcare Regulatory Agency (MHRA), to ensure safe pharmaceuticals and protect public health (20).

In contrast to FDA, MHRA does not assume responsibility for routine oversight of pharmaceutical advertising and promotion. Instead, MHRA focuses on matters which pose serious risk to public health and facilitate control of pharmaceutical advertising and promotion by a semi-autonomous association of British pharmaceutical companies (27).

The British system also gives companies extensive guidance on acceptable promotion and advertising conduct. Additionally, MHRA routinely engages pharmaceutical professionals in discussions of the challenges facing the regulatory system. FDA should consider key aspects of the British system. Specifically, FDA should clarify regulations, actively engage with industry, and create quicker regulatory processes. FDA should provide more guidance to pharmaceutical companies in a user-friendly format (20).

### **1.5. Liability on the Information Presented in Pharmaceutical Advertising**

Advertising is a straightforward way in which pharmaceutical companies use health journals. In most countries, companies can advertise prescribed pharmaceuticals only to physicians. This creates a gainful market for publications and many countries have publications that are sent free to physicians and entirely paid for by advertising. So, free publications work hard at making themselves attractive, relevant, interesting, and easy to read. As pharmaceutical advertisements influence prescribing, the question arises whether advertisements are misleading and whether health journals should publish them. If they publish, they should review them. Few editors refuse pharmaceutical advertisements and many of them review pharmaceutical advertisements and turn down those that they think misleading (28).

Due to the increasingly global context in which physicians work, physicians are partially dependent on the flow of information conveyed through pharmaceutical advertising. Marketing strategies work in two ways: on one hand, pharmaceutical advertising simplifies messages and thus facilitates understanding of information usually requiring specialized knowledge; on the other hand, pharmaceutical advertising is an authority figure, as it is currently the most important source of financial support for health journals as well as their main form of publicity. Although all pharmaceutical advertisements have a commercial purpose and thus generally low credibility, pharmaceutical promotion is an important filter of medical knowledge due to its indirect control over the media (28).

To influence the perceptions and decisions of the physicians at whom such publicity is directed, reality is redefined through the use of partial images of the target and is related to data about the benefits derived from certain properties of the pharmaceutical product (10).

There has always been arguments about pharmaceutical advertising in health journals; No pharmaceutical advertisements because it conveys to the reader, subtly but effectively, that prescribing the advertised pharmaceutical is the best practice for



physicians. And the advertisements' presence in health journals suggests that they are "medical education" endorsed; that reading the advertisement is the best practice (29). On the other hand, pharmaceutical advertising is a tool for pharmaceutical companies. Pharmaceutical advertisements in health journals give pharmaceutical companies chance to promote new products, to raise awareness and try to persuade physicians to consider them for their patients. But that does not mean that physicians will be anything less than rigorous in prescribing for their patients (30).

The pharmaceutical product label summarizes the safe and effective use of the product. The primary purpose of the label is "to give healthcare professionals the information they need to prescribe in an appropriate way (31). Although many physicians and patients assume that health authorities prepare the pharmaceutical product labels, they are actually prepared by the pharmaceutical companies who produce the products. Health authority's role is reviewing and approving the labels. Health authority approval must be obtained before a pharmaceutical product can be marketed.

Published reports of clinical trials in health journals are important source of pharmaceutical product information for physicians. But a growing body of literature has documented disturbing problems with the quality of published research reports, particularly when they are sponsored by pharmaceutical industry. Usually the benefit of the pharmaceutical product was magnified visually by presenting graphs. Side effects were also downplayed in articles. To make informed decisions, physicians and consumers need to weigh pharmaceutical benefits and side effects. But consumers and even physicians may have difficulty finding the relevant information.

For improving quality of pharmaceutical advertising or promotion, Drug Facts Box - a one page summary of benefit and harm data for each indication of a pharmaceutical- is developed by two researchers at the School of Medicine, Dartmouth. A series of studies - including national randomized trials - demonstrates that most consumers understand the Drug Facts Box and that it improves decision-making (32).

<b>DRUG FACTS</b>			
<b>ABILIFY (aripiprazole) for adults with major depression that persists on antidepressants</b>			
<b>What is this drug for?</b>	To reduce symptoms of major depression—nearly everyday feelings of extreme sadness, or hopelessness.		
<b>Who might consider taking it?</b>	Adults with major depression that persists after one or more 8-week courses of an anti-depressant.		
<b>How long has the drug been used?</b>	First approved in 2002 for schizophrenia; in 2007 for persistent depression (based on studies of about 1,000 people). As with all drugs, rare but serious side effects may emerge when more people use it for a new purpose.		
<b>What precautions should I take?</b>	Use caution driving or operating machinery because ABILIFY may impair judgment, thinking or motor skills. Do not drink alcohol or breastfeed. Check blood tests if you've had low white blood cell count or high sugar levels.		
<b>What other choices are there?</b>	Cognitive behavioral psychotherapy, exercise, switch to a different anti-depressant, add another anti-depressant, or electroconvulsive therapy.		
<b>Bottom line</b>			
Adding ABILIFY to an antidepressant for persistent depression is a tradeoff: some people's depression will improve but more will experience a serious side effect—akathisia. And some will gain a substantial amount of weight.			
The 2 FDA-approval studies combined below had nearly identical findings about how much the drug helped over 6 weeks. This makes the numbers in the table more believable. Benefits and side effects over a longer time are more uncertain.			
Like all anti-psychotic drugs, Abilify can cause a number of uncommon serious or life-threatening side effects including Tardive Dyskinesia, a potentially irreversible movement disorder with uncontrollable, jerky movements of the face or body.			
The FDA reviewer was concerned that side effects like weight gain, sedation and serious movement disorders may be worse or more common when Abilify is combined with antidepressants.			
<b>STUDY FINDINGS</b> (combined results of 2 identical trials)			
741 people – ages 19 to 67 years – with major depression that persisted after 6 weeks of an anti-depressant were randomized to have either ABILIFY or PLACEBO added for 6 weeks. Here's what happened:			
<b>What difference did ABILIFY make?</b>	<b>Anti-depressant + ABILIFY (10 mg each day)</b>	<b>vs.</b>	<b>Anti-depressant + PLACEBO (No drug)</b>
<b>How did ABILIFY help?</b>			
Depression scores improved by 3 points more than placebo (on a scale from 0 to 60).	9 points better	vs.	6 points better
11% more people had an important response and were no longer considered to have major depression	26%	vs.	15%
Functioning scores improved by 0.5 points more than placebo (on a scale from 0 to 10).	1.2 points better	vs.	0.7 points better
<b>What were ABILIFY'S side effects?</b>			
<b>Serious side effects</b>			
21% more people developed akathisia - severe restlessness that makes it hard to keep still	25%	vs.	4%
3% more people developed movement disorders –like Parkinson's disease	8%	vs.	5%
<b>Symptom side effects</b>			
6% more people had insomnia	8%	vs.	2%
5% more had blurred vision	6%	vs.	1%
4% more had substantial weight gain	5%	vs.	1%
4% more had fatigue	8%	vs.	4%
3% more had constipation	5%	vs.	2%
<b>WARNINGS ABOUT UNCOMMON LIFE-THREATENING AND VERY SERIOUS SIDE EFFECTS</b>			
Young adults using anti-depressants for major depression have a higher risk of suicidal thinking and behavior.			
Elderly patients with dementia-related psychosis should not use antipsychotic drugs – like ABILIFY—because they increase death.			
Antipsychotic drugs cause: Neuroleptic Malignant Syndrome (very high fever and blood pressure, delirium), Tardive Dyskinesia (uncontrollable facial / body movements), Dangerous Heart Rhythms, Seizures, Low White Blood Cells, Trouble Swallowing, Aspiration Pneumonia, Diabetes, Low Blood Pressure, Trouble Regulating Body Temperature			

Figure 1. Drug Facts Box Example (32)

The Drug Facts Box may improve prescribed pharmaceuticals communication in multiple ways. It may educate physicians and provide them with an unbiased summary of benefit and side effects using the same data that FDA used in pharmaceutical product approval process. It may educate consumers by filling in important gaps that exist in current informational sources such as pharmaceutical advertisements and medication guides. And also it may help for a better physician–patient communication by facilitating evidence-based discussions about pharmaceuticals (32).

## 1.6. Pharmaceutical Promotion in Turkey

Pharmaceutical advertisements, an element of pharmaceutical promotion, are regulated by the Ministry of Health (MoH) in Turkey. MoH regulate and control the promotional activities for all the products defined as human medicinal products, which includes; any natural and/or synthetically derived active substance or combination of substances, including biological products, enteral nutrition products, traditional herbal medicinal products and immunological products administered to humans with a view to curing, preventing and/or diagnosing a disease, or restoring, correcting or modifying a physiological function (33), which are also included in the scope of this study.

In Turkey, regulation concerning promotion of pharmaceuticals was put into force in late 1990 by MoH. According to regulations in Turkey, any promotion of medicinal products for human use to public through any public media or communication channels, including the internet, is restricted, whether directly or indirectly, or whether through placement in TV programmes. This excludes MoH-approved pharmaceutical advertisements placed in journals, announcing the market launch of a product. Healthcare professionals can not have a role in promotional activities of such pharmaceutical products without the permission of MoH (33).

MoH declared that pharmaceuticals can be classified as prescribed or non-prescribed. Advertisements of prescribed pharmaceuticals can only be published in health journals that reach only to healthcare professionals with prior approval of MoH.

The pharmaceutical promotion activities must;

- Conform to the product's brief product information,
- Include informative and evidence-based scientific information,
- Not include deceptive, exaggerated or unproven information that may lead to unnecessary use.



If the pharmaceutical promotion is made by documentation that includes citations from scientific studies, materials should include full references to their sources (33). The advertising of non-prescribed pharmaceutical products to public remains an unclear issue in Turkish regulations.

The use of non-prescribed pharmaceuticals may receive support from the pharmaceutical industry and health authorities because it provides savings in the health budget by reducing visits to the physician, but at the same time increases pharmaceutical consumption. Despite the risks involved, it is observed that self-medication is becoming more and more common. Nevertheless, DTC pharmaceutical advertising for non-prescribed pharmaceuticals is a matter of concern in terms of misuse of pharmaceuticals. Most advertisements, because of its form and content, delivers superficial and limited information but not the entire truth about the pharmaceutical product. Along with these, practices over pharmaceutical advertisements are still being argued, and regulations are becoming more flexible in Turkey for the sake of meeting standards of European Union. After such arrangements which is only about non-prescribed pharmaceuticals, similar attempts over prescribed pharmaceuticals would not be a surprise at all (34).

The legal situation of pharmaceutical promotion remains complex, and at times confusing in Turkey. Considering that Turkey is one of the biggest markets for pharmaceuticals, it is an important issue to regulate and define pharmaceutical advertising criteria in Turkey. In Turkey, it is also pointed out that pharmaceutical promotion expenses are approaching enormous amount, which is more than the public resources allocated for preventive health services, family planning, mother and child care and health education (35).

Advertising online is important and almost a necessary for a modern business in recent years and the widespread use of the internet has also been an important factor in the direct advertising of pharmaceuticals to consumers. For instance, 25% of information on the internet in USA, is associated with health, and more than half of adults using the internet make use of it to acquire information concerning health issues. It is also known

that some of those internet users have requested to obtain certain pharmaceuticals later from their physicians (36). The increasing use of the internet in Turkey has caused a similar trend. It is estimated that there are more than 300.000 websites related to the sale of almost all kinds of pharmaceuticals over the internet. Considering there are more than 30 million internet users in Turkey, there is a growing interest in this type of pharmaceutical sales (37).

Different marketing methods are used to influence consumers/patients and patient groups (34). Together with the complicated legal situation of advertisements, some hidden and illegal methods of pharmaceutical advertising such as using news and television programmes hosted by famous health authorities and journalists containing messages advocating the use of certain pharmaceuticals to public has been used increasingly in Turkey (38,39). Whether the name of a pharmaceutical product is mentioned or not, this type of hidden advertising is being prepared in order to influence healthy or unhealthy individuals towards the consumption of pharmaceuticals. In Turkey, several pharmaceutical companies have screening programmes such as lipid determination, osteo-scanning for osteoporosis, etc. aimed for advertising their products and for prescription habits of physicians (40). Especially in developing countries, such programmes and projects are important tools used for increasing pharmaceutical consumption.

It is clear that 'masked' pharmaceutical advertising has been playing an increasingly important role in shaping public demands and pharmaceutical consumption. It has been estimated that because of the advertisements, pharmaceuticals are prescribed mostly when patients demand (41). In this case, there is an emphasis on the importance of the evaluation of differences between pharmaceutical education and advertisements regarding medication. Although pharmaceutical companies would like to demonstrate pharmaceutical advertising in the form of an educational activity, this activity actually stands to bring down public health education to a commercial level and to make it a part of a sale-based activity (42). In developing countries, where pharmaceutical education is insufficient, pharmaceutical advertisements are misleading people and they function as a factor to reinforce the belief that pharmaceuticals are remedies for all 'troubles' (34).



## 2. AIM OF THE STUDY

This research details the pharmaceutical advertisements in the scientific and popular health journals. The aim of the study is to reveal whether the pharmaceutical advertisements are compliant to the pharmaceutical promotion regulations in Turkey. And to identify the similarities and differences between popular health journals that reach public and scientific health journals that reach to healthcare professionals.

This study:

- considers both healthcare professionals-directed and consumer-focused journals' perspective to evaluate pharmaceutical advertisements and promotion.
- tries to identify the similarities and differences between popular and scientific health journals.
- analyses the content of pharmaceutical advertisements in the selected health journals.
- tries to suggest what additional information should be provided to make more awareness for healthcare professionals and for consumers.

### 3. METHODOLOGY

In this part, research design and methodology of this study are presented. Data is analyzed retrospectively and comparatively over a coding system. The content differences of the pharmaceutical advertisements in both selected journals are compared with the help of SPSS 21.0 statistics programme.

In this study, two selected journals, Formsante and Medical Tribune are referenced as 'A' and 'B', respectively.

#### 3.1. Selection Criteria and Search Strategy

Researches which are referenced in this study are included if they are published in English or in Turkish, and examined the quality of information included in advertisements for pharmaceutical products in scientific and popular health journals. For this study, advertisements of both prescribed and non-prescribed pharmaceuticals that are published in two selected health journals are focused.

Two health journals are selected; one of them only targeting healthcare professionals, and the other one targeting public. The reason for selecting these two journals is because they are both published in Turkey and published internationally in English. They are the most known journals in their own areas. In pharmaceutical companies, journal B exists in almost every managers' room and in waiting lobbies of the company. Journal A is one of the first published public health journals in Turkey and is easy to find in almost every big market.

The databases searched for this study are; Medline, Pubmed, Google, Web of Science, Research Gate. The researcher searched databases for all studies published, no matter what the publish year is. The following search keywords are used: "pharmaceuticals", "drug advertisements", "drug promotion", "regulations for pharmaceutical promotion", "pharmaceutical advertisement". The researcher carried out the search, scanned title and abstracts of the studies identified from this search.

### 3.2. Data Collection

This is a retrospective study and the data of this study has been obtained by the researcher from two different health journals in Turkey, that presents pharmaceutical advertisements. The former issues of both journals for year 2012 are only provided by the publishers. Submission to publishers for the approval of search is done by the researcher.

The data has been collected only after the approval of both publishers, because the issues are archived only at the publishing house. The publishers agreed to share the former issues of the journals.

Advertisements that are focused are selected among others due to the perspective of this study, which is about pharmaceutical product related advertisements. This study includes advertisements of drugs, OTCs, nutritional supplements, dermocosmetics, medical devices and any product that is considered as a pharmaceutical product. Data collection of 72 pharmaceutical advertisements are completed at the end of May 2013.

For each pharmaceutical advertisement, criteria like, brand and generic names, the manufacturer's name, references, number of same advertisements, product information, adverse effect information availability and more are considered.

After the data collection, to analyze the advertisements, a careful work and time needed to focus on each advertisement in detail (similar advertisements may be repeated in journals) and transfer the data to the score table, which is designed by the researcher and includes the content of some chosen parameters mentioned in previous paragraph.

### **3.3. Data Analysis**

Data analysis are performed by using Microsoft Office Excel 2007 and SPSS 21.0 statistics programme. The retrospective data are transferred to an excel list to arrange data (appendix 1), which has been mentioned before as score table.

SPSS 21.0 statistics programme is used for analysis. Descriptive analysis, including means, medians, ranges and frequencies are performed for collected data. Data is also presented with tables and graphs.

### **3.4. Evaluation**

Data collected from the advertisements is used to describe the contents in both journals and to find out if the information that should be given are presented or not. There are 19 different parameters that are selected by the researcher, to analyze the contents. 15 of these parameters are used for both journals in the study. Journal B, which is reaching to healthcare professionals, is observed to have more detailed information than journal A. Pharmaceutical advertisements are expected to present more scientific information for healthcare professionals, considering they are one kind of a conductor, that transports the data to the consumers or patients.

The parameters used for analyzing the content of the advertisements in this study, differs for journal A and journal B because of the regulations. The prescribed pharmaceuticals are not allowed to be advertised in public health journals, so journal A only includes advertisements of OTCs, nutritional supplements, dermocosmetics etc. For this reason, the selected parameters are different for both journals because the journals include different type of pharmaceutical product advertisements related to the regulations of MoH.

The parameters for journal A (also can be seen in appendix 1) ;

Brand/generic name,

Company name,



Reference on product information,  
Pharmaceutical product package image,  
Picture contents: Woman/Man/Children/None/All,  
Pharmaceutical product advertised in other issues,  
Pharmaceutical product number advertised in one advertisement,  
Pharmaceutical class of product,  
'not a drug' claim,  
Company contact information,  
Social media information,  
Referenced health association,  
Which association?,  
Corporate movements of manufacturer,  
Place of sale.

The parameters for journal B (also can be seen in appendix 1) :

Brand/generic name,  
Company name,  
Readability of the information in the advertisement,  
Product information,  
Reference on product information,  
Pharmaceutical product package image,  
Picture contents: Woman/Man/Children/None/All,  
Pharmaceutical product advertised in other issues,  
Pharmaceutical product number advertised in one advertisement,  
Pharmaceutical class of product,  
'not a drug' claim,  
Company contact information,  
Social media information,  
Referenced health association,  
Which association?,  
Corporate movements of manufacturer,  
Price information,

Warnings/precautions, adverse effect information,  
Place of sale.

These parameters are selected regarding the pharmaceutical promotion regulations (33) and pharmaceutical company organizations' guidelines (43) in Turkey and regarding the referenced researches used in this study.

### **3.5. Limitations of the Study**

- This study is limited to the referenced researches that has been published in English and in Turkish. Excluding researches in other languages may have led to the omission of some studies that provide evidence about the information in pharmaceutical advertising.
- Extrapolation of the average findings of this study to the average for all pharmaceutical advertisements around the world may not be accurate.
- The number of studies are limited and their methods are variable to allow conclusions about similarities or differences between countries.
- The pharmaceutical advertisements are sampled from year 2012, so comments on trends in these advertisement characteristics over time can not be expressed precisely.
- At the beginning of this study, the volume of pharmaceutical advertisements have been expected to be greater in the two selected journals.

#### 4. RESULTS AND DISCUSSION

**Table 1.** Distribution of Numbers of Journals' Issues and Pharmaceutical Advertisements

<b>Journal</b>	<b>No. of issues/year</b>	<b>No. of issues examined</b>	<b>No. of advertisements analyzed</b>
A	12	12	36
B	9	9	36

Journal A published 12 issues in 2012 and journal B published 9 issues in 2012. In total, 72 pharmaceutical advertisements are selected and examined.

Pharmaceutical advertisements are a direct communication channel between the pharmaceutical companies and the consumers or the healthcare professionals. Mostly it is considered that pharmaceutical advertisements should have educational content but the target for the pharmaceutical companies is promotion. In terms of detailed pharmaceutical product characteristics, like brief medical information are mostly presented to healthcare professionals.

All pharmaceutical advertisements are analyzed and the contents of them have been compared with the appropriate contents that regulations stated. Some of the pharmaceutical advertisements, especially in public-directed popular health journals have been observed to have poor information about the advertised products. They usually lack to have detailed information about product, potential side effects, references, which are important for informing the consumers.

**Table 2.** Readability of Information in Pharmaceutical Advertisements in Journal B

	<b>Frequency, n</b>	<b>Percent, %</b>
<b>Readable</b>	18	50
<b>Not readable</b>	18	50
<b>Total</b>	36	100

Pharmaceutical product information presented in the journal advertisements are written in small punto, nearly unreadable. While collecting data for this study, magnifying glass used for reading the contents for study purpose. Small punto size may be related to the cost of advertising in a larger space in journals. Pharmaceutical companies contact information are presented in most of the pharmaceutical advertisements, but once again some of them are not able to be seen with bare eye. The readability criteria is expressed in the pharmaceutical promotion regulations in Turkey but not an exact punto size is indicated (33).

The pharmaceutical advertisements in this study, contain substantially inadequate information. Pharmaceutical advertisements in scientific and public health journals usually provided brand/generic names and indications in capital letters where the other essential information like side effects, warnings and precautions are less commonly provided and also in small punto that it is nearly impossible to be read. And these essential information mostly seen in health journals that reach only to healthcare professionals.

In the above table, it is presented that 50% of the pharmaceutical advertisements in journal B include information that is hard to read with bare eye because they are presented in small punto. On the other side, there are none of these information presented in the public health journal, journal A. This may be related to the fact that public health journals contain advertisements of non-prescribed pharmaceuticals in Turkey and there no defined regulations about certain criteria of pharmaceutical promotion.



From the beginning of this study, it is assumed that all the pharmaceutical product advertisements have educational content. Pharmaceutical advertisements should at least contain references cited to contain medical claims. In this study, it is observed that some of the pharmaceutical advertisements contain references used to support their claims. The inappropriate use of references in pharmaceutical advertising shows that the availability of references may not always guarantee the quality of claims. The journal editors claimed that they do not review the contents of pharmaceutical advertisements provided by the pharmaceutical companies before their appearance in the journals. The numbers of pharmaceutical advertisements in public health journals and scientific health journals that reach to healthcare professionals are same in our study in 2012. As it is not allowed to advertise prescribed pharmaceuticals directly to consumers, only non-prescribed pharmaceuticals are allowed to be advertised in public health journals. The use of non-prescribed pharmaceuticals is also a great concern, so a regulatory control should be considered for the pharmaceutical advertisements in health journals before their appearance. Because the pharmaceutical advertising increases the use of pharmaceuticals with unknown safety profiles.

Advertising to healthcare professionals who prescribe pharmaceuticals is for sure the most strategic part of the pharmaceutical promotion. And in the scientific health journal, there are some advertised pharmaceuticals in a majority of the top selling classes.

All of the pharmaceutical advertisements in both journals contain pictures. Sometimes a picture may express more information than the written text and may reinforce the manufacturers' message about the product. To describe the message of a picture in words is difficult. Feelings, attitudes, expectations, dreams are examples of messages conveyed by pictures and drawings (10). In the future, maybe there will be regulations about the criteria of the pictures that are used in pharmaceutical advertisements. Further studies are essential to provide an understanding of prescribers' and patients' behaviour to commercial information.

One way of discussing the results is to see how far the pharmaceutical advertisements meet the WHO criteria for pharmaceutical promotion, which state that pharmaceutical

advertisements should usually contain "approved therapeutic uses", "side effects and major adverse reactions", "warnings/precautions and contraindications" (10). Most of the pharmaceutical advertisements observed in this study aim to attract attention to the brand name and company name as long as it is the only interest of pharmaceutical companies to sell more products.

Pharmaceutical advertisements are an important factor of marketing and may be analyzed in different ways. The medical information content is one of the factors. But they must be taken seriously. Readers who pay no attention to the advertisements are liable to be influenced by just the way the advertiser intended. On the other hand, those who examine advertisements critically will learn what they want (10).

It is observed that pharmaceutical advertisements do a poor job of conveying basic information necessary for safe prescribing, with the majority failing to point out serious risks.

In journal B, there are more detailed product information in pharmaceutical advertisements than journal A. Education for healthcare professionals is also targeted besides promotion in journal B. In journal A, pharmaceutical promotion has the priority. Therefore theme pictures, brand and company names are highlighted. It can be understood because journal A includes pharmaceutical advertisements only about non-prescribed pharmaceuticals.

**Table 3.** Product Information Availability in Pharmaceutical Advertisements in Journal B

	<b>Frequency, n</b>	<b>Percent, %</b>
<b>Available</b>	35	97,2
<b>Not available</b>	1	2,8
<b>Total</b>	36	100

One of the pharmaceutical advertisements in journal B lack to provide product information. It may be understood because it is not a prescribed pharmaceutical and it is not against the regulations in Turkey. Yet again, it may be useful to present product information for all kind of pharmaceuticals, prescribed or not. But the product information should be consistent with the information given in MoH-approved product package insert (33).

The general expectation that pharmaceutical advertisements should support rational prescribing by presenting complete safety and efficacy information may be unrealistic since pharmaceutical advertisements primarily serve a marketing function (18).

Pharmaceutical advertisements may contain inadequate information for safety use of products or safe prescribing. Advertising is the right of pharmaceutical companies and sometimes it may be a free speech but it should keep its mission to protect public health by ensuring that information is accurately transferred through advertisements. Regarding the regulations in Turkey, the product information in the pharmaceutical advertisements should be supported with sufficient references and the sources of these references should be presented (33). It is observed that there are not enough references given in the pharmaceutical advertisements in both journals.

**Table 4.** Availability of References on Product Information in Pharmaceutical Advertisements

		Frequency, n	Percent, %
<b>Journal A</b>	<b>Available</b>	8	22,2
	<b>Not available</b>	28	77,8
	<b>Total</b>	36	100
<b>Journal B</b>	<b>Available</b>	22	61,1
	<b>Not available</b>	14	38,9
	<b>Total</b>	36	100

**Table 5.** Product Package Images in Pharmaceutical Advertisements

	Journal A		Journal B	
	Frequency,n	Percent,%	Frequency,n	Percent,%
Available	36	100	32	88,9
Not available	0	0	4	11,1
Total	36	100	36	100

Product package images are also presented in pharmaceutical advertisements. In public health journal, journal A, all of the pharmaceutical advertisements include product package images. And in journal B targeting healthcare professionals, 88,9% of all pharmaceutical advertisements include product package images.

Pictures are identified in 21 pharmaceutical advertisements out of 36 in journal A and in 15 pharmaceutical advertisements out of 36 in journal B. Most pharmaceutical advertisements include pictures that are consistent with the written text and pictures that would promote use for the appropriate consumer population.

**Table 6.** Picture Contents in Pharmaceutical Advertisements

	Journal A		Journal B	
	Frequency,n	Percent, %	Frequency,n	Percent, %
Woman	13	36,1	6	16,7
Man	0	0	0	0
Children	3	8,3	4	11,1
None	15	41,7	21	58,3
All of them	5	13,9	5	13,9
Total	36	100	36	100



In the above table, it is seen that man figure is not included in pictures of pharmaceutical advertisements in this study. Woman and children figures are mostly used in pharmaceutical advertisements in both journals. This can be related to the intentions of the pharmaceutical companies to effect the feelings of women for themselves and for their children.

Pharmaceutical advertisements including children images should be presented carefully because children are most sensitive part for their families. Unrealistic images used in pharmaceutical advertisements may lead to unsafe use of pharmaceutical products.

Most advertised pharmaceutical products in the selected journals for this study are generally known and commonly sold products. This outcome can be understood because publishing the pharmaceutical advertisements in journals cost money and big pharmaceutical companies can spare more budgetary expenses for promoting their products.

The pharmaceutical advertisements in journal B are both prescribed and non-prescribed pharmaceutical advertisements. In journal A, which targets public, non-prescribed pharmaceutical advertisements observed. OTCs, nutritional supplements and dermocosmetics are advertised in journal A. Because regulations do not allow DTC advertising for prescribed pharmaceuticals.

**Table 7.** Pharmaceutical Class of Products in Pharmaceutical Advertisements

	<b>Frequency, n</b>	<b>Percent, %</b>
<b>Drug</b>	29	40,3
<b>Nutritional supplement</b>	22	30,6
<b>Dermocosmetic</b>	17	23,6
<b>Other medicinal products</b>	4	5,6
<b>Total</b>	72	100

**Table 8.** 'Not a Drug' Claim in Pharmaceutical Advertisements

		<b>Frequency, n</b>	<b>Percent, %</b>
<b>Journal A</b>	<b>Available</b>	13	36,1
	<b>Not available</b>	23	63,9
	<b>Total</b>	36	100
<b>Journal B</b>	<b>Available</b>	1	2,8
	<b>Not available</b>	35	97,2
	<b>Total</b>	36	100

It is important to express that advertised pharmaceutical product is a 'drug' or not, especially in the public health journal. All the pharmaceutical advertisements analyzed in journal A are not classified in 'drug' category. But not all the pharmaceutical advertisements express that advertised products are 'no drugs'.

In journal A, despite all the advertised pharmaceuticals are not classified as 'drug', only 13 out of 36 pharmaceutical advertisements present 'not a drug' claim. Regarding the pharmaceutical promotion regulations in Turkey, it should be declared that the advertised pharmaceutical product is classified as a 'drug' or not (33). This shows the need for a detailed control of advertisements of non-prescribed pharmaceuticals. The control for the content should not be given in the hands of pharmaceutical companies.

In journal B, only 1 out of 36 pharmaceutical advertisements does not present 'not a drug' claim. This pharmaceutical product is not a prescribed pharmaceutical and it should present 'not a drug' claim in regard to pharmaceutical promotion regulations in Turkey.



**Table 9.** Pharmaceutical Advertisements, Journal A

Variable	Advertisements, n
Daffny	4
Multiple Fiber Formula	3
C-500 Echinacea	3
EfaVit-Efa Daily-Efa S 1200	3
Brotect	2
Calcium 600 vit. D3	2
Photoderm Max	2
After sun spray lotion	2
Omega 3 950	1
Womensa ultra mega-Triple fish oil-Echinacea ext.-CoQ 10-CLA-Winterex	1
Vaseline	1
Antioxidant cream serum	1
Hyaluronic acid	1
Summer 7 mirror	1
Hamilton	1
Eyelash and eyebrow serum	1
Hydra vegetal	1
Vino gold night cream/Vino gold eye cream	1
Pharmaton Effervescent Tablet	1
Anti Blemish	1
Cumlaude Lab	1
Apitera	1
Purpressed base SPF 20	1

This study includes 72 pharmaceutical advertisements representing 46 different pharmaceutical products. In journal A, 22% of the space are occupied by all type of advertisements in 2012. And pharmaceutical advertisements occupy 6% of the space in 2012. Being the most advertised product in journal A, Daffny has been launched by Kuteks company in 2012. Daffny brand includes different types of products including mothercare products, baby care products. Daffny is claimed to be a 100% natural product and does not include chemical or synthetic substances. In journal A other top advertised products are mostly nutritional supplements.

**Table 10.** Pharmaceutical Advertisements, Journal B

<b>Variable</b>	<b>Advertisements, n</b>
Rennie	6
AcuVue	3
Seftech	3
Coveram	2
Coversyl	2
Aptamil	2
Afinitor	2
Omnitrope	1
Galvus Met	1
Ventavis	1
Respiro	1
Panadol	1
Reflor	1
Novofine	1
Zemplar	1
Encef	1
Diovan/Co Diovan	1
Venofor Combi/Respira	1
Zanipress	1
Brilinta	1
Coralan	1
Xarelto	1
Imuneks	1

Rennie, the most advertised pharmaceutical product in journal B, is a product by Bayer Group. Rennie is indicated for gastrointestinal problems like indigestion and heartburn. Bayer even designed a website for Rennie and presents detailed information about the product. Both prescribed and non-prescribed pharmaceuticals are advertised in journal B. Almost 35% of the space in journal B are occupied by pharmaceutical advertisements in 2012. All of these advertisements are on the pages of the journal, not on the inserts. 35% space is not a low percent and journals occupying many advertisements may be questioned about their publishing purposes. To advertise pharmaceutical products frequently in health journals may be a marketing strategy. To increase the appearance in health journals may be considered as a trade rivalry by pharmaceutical companies.

**Table 11.** Company Contact Information in Pharmaceutical Advertisements

		<b>Frequency, n</b>	<b>Percent, %</b>
<b>Journal A</b>	<b>Available</b>	29	80,6
	<b>Not available</b>	7	19,4
	<b>Total</b>	36	100
<b>Journal B</b>	<b>Available</b>	31	86,1
	<b>Not available</b>	5	13,9
	<b>Total</b>	36	100

Company contact information is presented in almost all pharmaceutical advertisements in journal B. 86.1% of all pharmaceutical advertisements in journal B include company contact information and 13.9% of all pharmaceutical advertisements do not include company contact information. Also in journal A, 80.5% of all pharmaceutical advertisements in 2012 include company contact information and 19.5% do not include. Regarding the pharmaceutical promotion guidelines in Turkey (43), company contact information should be presented in pharmaceutical advertisements.

Social media is the new hybrid element of all kind of promotion. And only one advertisement, which contributes to 2,8% of all pharmaceutical advertisements in journal B includes social media information. About the social media information in pharmaceutical advertisements in journal A; 38.9% include this information and 61.1% do not include.

**Table 12.** Social Media Information in Pharmaceutical Advertisements

	<b>Frequency, n</b>	<b>Percent, %</b>
<b>Available</b>	15	20,8
<b>Not available</b>	57	79,2
<b>Total</b>	72	100

**Table 13.** Referenced Health Associations in Pharmaceutical Advertisements

	<b>Frequency, n</b>	<b>Percent, %</b>
<b>Available</b>	13	18,1
<b>Not available</b>	59	81,9
<b>Total</b>	72	100

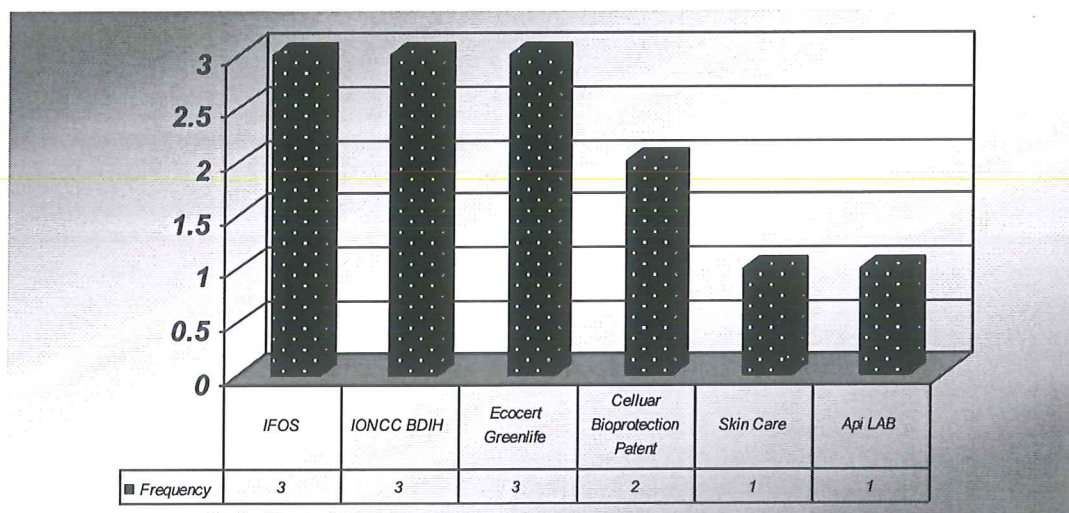
Besides social media information given in pharmaceutical advertisements, it is also a developing trend to present the names of the health associations to reference the advertised pharmaceutical product. This trend is observed in pharmaceutical advertisements in public health journal, journal A. In journal B targeting healthcare professionals, no health association names are included in pharmaceutical advertisements.

13 out of 36 pharmaceutical advertisements in journal A references health associations. 6 associations observed from these advertisements are;

- IFOS; The international fish oil standards program is provided by Nutrasource Diagnostics Incorporated based in Canada (44).
- IONCC BDIH; International organic and natural cosmetics corporation's role is organize global checks on cosmetics to ensure they meet BDIH standard (a non-profit association of manufacturers and distributors based in Germany) (45).
- Ecocert Greenlife; is the first certification body to develop standards for 'natural and organic cosmetics' based in France (46).
- Cellular Bioprotection Patent; is a biological response to skin protection used mainly by one of the most famous companies known for their dermocosmetic products based in France (47).
- Skin Care; no data is found about this association. It may be a specialized company association.
- Api LAB; is an engineering office specialized in environmental monitoring with bees, based in France (48).



**Figure 2.** Referenced Health Associations in Pharmaceutical Advertisements in Journal A



Advertising of non-prescribed pharmaceuticals like OTCs, dermocosmetics, nutritional supplements does not need approval from MoH in Turkey. Only submission is needed for informing MoH about pharmaceutical advertising of these kind of products. Maybe it is not a good idea to give the initiative to pharmaceutical companies about pharmaceutical advertisement contents.

If we consider the ratio of availability of information on price of pharmaceuticals in the public health journal, journal A, there are no price information given. And in journal B, presented only to healthcare professionals, 75% of all pharmaceutical advertisements include price information.

**Table 14.** Information on Price in Pharmaceutical Advertisements in Journal B

	Frequency, n	Percent, %
<b>Available</b>	27	75
<b>Not available</b>	9	25
<b>Total</b>	36	100

Regarding pharmaceutical promotion regulations in Turkey, there is no exact criteria about price information for advertised pharmaceuticals in journals. But promotion guidelines define price information criteria (43). 75% of the analyzed pharmaceutical advertisements in journal B present price information and 25% of them do not present price information.

Another selected criteria for this study was ‘place of sale’ information of the pharmaceuticals in the selected advertisements. In scientific health journal, journal B, place of sale is not mentioned. In public health journal, journal A, 91,6% of the pharmaceutical advertisements presented ‘place of sale’ information. This information should be given regarding the promotion guidelines but it is not a regulatory criteria to state the place of sale (43). It may be useful for consumers to be informed about the right places to take any kind of pharmaceuticals because there are many unauthorized websites trying to sell pharmaceuticals.

Lack of information on warnings/precautions and adverse effects in pharmaceutical advertisements may have a big impact on safety use. So, truthful statements about benefits and expected harms of pharmaceuticals should be declared in advertisements (33). The ratio of availability of information on adverse effects, warnings/ precautions in journal B is analyzed. Despite these information are very important for safety use, no information is included.

**Table 15.** Warnings/Precautions, Adverse Effect Information Availability in Pharmaceutical Advertisements in Journal B

	<b>Frequency, n</b>	<b>Percent, %</b>
<b>Available</b>	<b>0</b>	<b>0</b>
<b>Not available</b>	<b>36</b>	<b>100</b>
<b>Total</b>	<b>36</b>	<b>100</b>

In a developed country, the pharmaceutical industry is part of a balanced power structure, including government, academia and consumer organizations. In developing countries, these balancing influences do not exist. Different strategies have been employed by the government to control the quality of the information which health professionals receive from the pharmaceutical companies in the form of journal advertisements. The effectiveness of each of these policies can be evaluated by comparing countries which have adapted legislative or voluntary codes of pharmaceutical advertising control or by comparing practices on a before-after basis (49).

The promotional activities of pharmaceutical companies have changed and become more effective over the years. Pharmaceutical advertising is a short summary of the promotional platform for the pharmaceutical product. Advertising is just one element of pharmaceutical promotion but still it is a marker of the pharmaceutical promotional activity. So pharmaceutical advertisements should include high quality information and should be consistent with the related regulations.

In Turkey, pharmaceutical promotion regulation criteria is defined generally and do not express certain claims. Pharmaceutical company organizations' guidelines define more strict criteria.

Consistent with the aim of the study, both journals are substantially parallel with the pharmaceutical promotion regulations in Turkey. But still there are some inconsistencies with the regulations. This situation may be related to the uncertain regulation criteria for the pharmaceutical advertisement content.



## 5. CONCLUSION

Pharmaceutical advertising is a direct communication channel between pharmaceutical companies and consumers or healthcare professionals. So, it is comprehensible that pharmaceutical advertising is an important factor which should determine the physicians' choice of medication to treat patients or determine the consumers' choice of medication use in specific situations. By nature of its high importance, pharmaceutical advertisements should present detailed and realistic product information. But still there are no certain regulations on some criteria of pharmaceutical promotion content in Turkey. The MoH promotion regulations referenced at the beginning of this study has been updated. But there is no updated criteria about pharmaceutical advertising concerning this study.

In this study, we tried to point out the inadequate information presented in pharmaceutical advertisements. And also differences between pharmaceutical advertisements in two journals observed. In public health journal, journal A, there are no prescribed pharmaceuticals advertised, as expected. Because advertising of prescribed pharmaceuticals is restricted by MoH in Turkey. On the other hand, prescribed pharmaceuticals are advertised in the journal targeting healthcare professionals, which is journal B.

The importance of non-prescribed pharmaceutical products and prescribed pharmaceutical products should be evaluated from same perspective. And the impact of pharmaceutical advertisements in health journals should not be ignored. Therefore, more detailed product information and supporting references should be presented in pharmaceutical advertisements.

In conclusion, further studies on promotion of all type of pharmaceuticals should be conducted for the evaluation of the advertisement content. Regulations about promotion of pharmaceuticals should be more specific. Especially, any expression that may be misleading or incorrect should be carefully evaluated by healthcare professionals and excluded if necessary. Prospective long term studies focusing on more health journals



than this study may be conducted, so more information may be obtained in terms of appropriate advertisement content or underlying message that is given with the headlines or pictures of advertisements. New strategies are needed to ensure that pharmaceutical advertisements comply with standards intended to promote proper use of the pharmaceutical products and to protect the consumers. In this way, more effective and detailed pharmaceutical promotion guidelines may be developed and improper use or improper prescribing of pharmaceuticals may be reduced. It may even be prevented in long term.

Pharmaceutical advertisements should be taken seriously. Because, if readers pay no attention on pharmaceutical advertisements, they may be influenced the way the advertiser intends. But if readers take it serious, they can learn what they want from pharmaceutical advertisements no matter what advertiser intends.

Considering pharmaceutical advertisements as a direct factor on public health, pharmaceutical promotion regulations should define certain criteria about pharmaceutical advertising. Health authorities, non-governmental organizations, pharmaceutical companies and healthcare professionals should all take responsibility for public health and look after the implementation of the regulations.

## 6. REFERENCES

- 1) "Drug." Random House, Inc., via dictionary.com, 20.09.2012.
- 2) "Drug." The American Heritage Science Dictionary, via dictionary.com, 20.09.2012.
- 3) Over-the-Counter Medicines: What's Right for You? (2009) www.fda.gov, 04.08.2012.
- 4) <http://www.fda.gov/medicaldevices/deviceregulationandguidance/overview/classifyyourdevice/ucm051512.html>, 20.06.2013.
- 5) M.S.Wilkes, R.A. Bell and R.L. Kravitz. Direct-to-Consumer prescription drug advertising: trends, impacts and implications. *Health Affairs*, 2000; vol. 19, no.2:110-128.
- 6) J. Rudd and K. Glanz, "How Individuals Use Information for Health Action: Consumer Information Processing," in *Health Behavior and Health Education: Theory, Research, and Practice*, ed. K. Glanz, F.M. Lewis, and B.K. Rimer (San Francisco: Jossey-Bass, 1990); and L.A. Morris, D. Brinberg, and L. Plimpton, "Prescription Drug Information for Consumers: An Experiment of Source and Format," *Current Issues and Research in Advertising* 1, 1984; no. 1: 65–78.
- 7) M.S. Lipsky and C.A. Taylor. "The Opinions and Experiences of Family Physicians Regarding Direct-to-Consumer Advertising". *Journal of Family Practice* 1997; 45, no.6: 495-499.
- 8) Wilkes MS, Doblin BH, Shapiro MF. Pharmaceutical advertisements in leading medical journals: experts' assessments. *Ann Intern Med*, 1992; 116:912-919.
- 9) Avorn J, Chen M, Hartley R. Scientific versus commercial sources of influence on the prescribing behavior of physicians. *Am J Med*, 1992; 73:4-8.
- 10) Herxheimer A, Lundborg CS, Westerholm B. Advertisements for medicines in leading medical journals in 18 countries: a 12-month survey of information. *Int. J. Health Serv.*, 1993; 23(1): 161-172.
- 11) World Health Organization. Ethical criteria for medicinal drug promotion. Geneva: WHO; 1988. Available from: <http://www.who.int/medicinedocs/collect/edmweb/pdf/whozip09s.pdf>. 27.05.2013.
- 12) Kimberly A. Kaphingst and William DeJong. The Educational Potential Of Direct-To-Consumer Prescription Drug Advertising. *Health Affairs*, 2004; 23, no.4:143-150.

- 13) Jeremy A. Greene, MD , PhD. and David Herzberg, PhD., Hidden in Plain Sight Marketing Prescription Drugs to Consumers in the Twentieth Century. *Am. J. Public Health*, May 2010; 100(5): 793-803.
- 14) Crystal Richardson. Chasing Technology: A call for FDA regulation of Pharmaceutical Internet Marketing. *Journal of Health&Biomedical Law*, 2012; Vol VIII No.2: 249-296.
- 15) Julie M. Donohue, Ph.D., Marisa Cevasco, B.A., and Meredith B. Rosenthal, Ph.D. A decade of Direct to Consumer Advertising of Prescription Drugs. *The New England Journal of Medicine*, 16 August 2007; Volume 357 (7): 673-681.
- 16) Vancelik S., Beyhun N.E., Acemoglu H., Calikoglu O. Impact of pharmaceutical promotion on prescribing decisions of general practitioners in Eastern Turkey. *BMC Public Health*, 2007; 7:122, 25.
- 17) Noordin Othman, Agnes Vitry, Elizabeth E. Roughead. Quality of pharmaceutical Advertisements in Medical Journals: A systematic review. *PloS One*, 2009; 4(7): e6350.
- 18) Korenstein D, Keyhani S, Mendelson A, Ross JS. Adherence of Pharmaceutical Advertisements in Medical Journals to FDA Guidelines and Content for Safe Prescribing. *PloS One*, 2011; 6(8): e23336.
- 19) Neslin S. RAPP Study Executive Summary (2001) Available from [http://www.docstoc.com/docs/69287888/ROI-Analysis-of-Pharmaceutical-Promotion-\(RAPP\)-An-Independent](http://www.docstoc.com/docs/69287888/ROI-Analysis-of-Pharmaceutical-Promotion-(RAPP)-An-Independent), 17.06.2013.
- 20) Elizabeth (Issie) Karan. FDA Regulation of Off-Label Promotion of Pharmaceuticals through the False Claims Act: Is There a Better Way?. <http://www.mnbar.org/docs/default-source/default-document-library/elizabeth-karan.pdf> 15.09.2013.
- 21) Morris LA, Pines WL. Regulation of pharmaceutical promotion in the twenty-first century. *Drug Information Journal*, 2000; 34: 861–873.
- 22) Worldwide survey on national controls of pharmaceutical advertising and promotion. The Organisation for Professionals in Regulatory Affairs, 2009. Available: [http://www.topra.org/files/2005N11\\_Focus\\_02.pdf](http://www.topra.org/files/2005N11_Focus_02.pdf) , 11.03.2013.
- 23) Carandang ED, Moulds RFW. Pharmaceutical Advertisements in Australian Medical Publications - Have They Improved. *Medical Journal of Australia*, 1994; 161.



- 24) Chirac P, Pikon A, Poinsignon Y, Vitry A. Drug Marketing in French-Speaking African Countries. *Social Science & Medicine*, 1993; 36: 1541–1543.
- 25) Cooper RJ, Schriger DL, Wallace RC, Mikulich VJ, Wilkes MS. The quantity and quality of scientific graphs in pharmaceutical advertisements. *Journal Of General Internal Medicine*, 2003; 18: 294–297.
- 26) World Health Organization. Ethical criteria for medicinal drug promotion. Geneva: WHO; 1988. Available from: <http://www.who.int/medicinedocs/collect/edmweb/pdf/whozip09s/whozip09s.pdf>, 21.10.2013.
- 27) Osborn. British system of prescription regulation. 2013; supra note 2: 340–356.
- 28) Smith R. Medical journals and pharmaceutical companies: uneasy bedfellows. *BMJ*, 2003; 326:1202–1205.
- 29) John Hoey MD. Should medical journals carry pharmaceutical advertising? No. *Canadian Family Physician*, 2010; Vol. 56.
- 30) David Dehaas. Should medical journals carry pharmaceutical advertising? Yes. *Canadian Family Physician*, 2010; Vol. 56.
- 31) An introduction to the improved FDA prescription drug labeling. US Food and Drug Administration. Available at: <http://www.fda.gov/downloads/Training/ForHealthProfessionals/UCM090796.pdf>, 22.08.2013.
- 32) Lisa M. Schwartz and Steven Woloshin. The Drug Facts Box: Improving the communication of prescription drug information. *PNAS* 2013; vol. 110, 3 (suppl): 14069-14074.
- 33) Regulation on Promotional Activities of Human Medicinal Products <http://www.titck.gov.tr/UnitDetails.aspx?DetailId=P5NmLnwbwQE=&Laws=hl%20zSk6i6GI=>, 10.03.2013.
- 34) Semih Semin et al. Direct-to-consumer advertising of pharmaceuticals: developed countries experiences and Turkey. *Blackwell Publishing Ltd Health Expectations*, 2006; 10:4–15, 17.
- 35) [http://www.martiyazilim.com.tr/marti.php?yol/haberler/yasam/2003\\_4/kiyakpromosyon.html](http://www.martiyazilim.com.tr/marti.php?yol/haberler/yasam/2003_4/kiyakpromosyon.html), 12.05.2013.



- 36) Matthews M. Who's Afraid of Pharmaceutical Advertising?. IPI Policy Report, 155, 17May2000. <http://www.ipi.org/ipi%5CIPublications.nsf/PublicationLookupFullText/F4F61FB6BB576D4086256A4F00229C2>, 13.11.2013.
- 37) <http://www.sabah.com.tr/2005/06/24/gun114.html>, 01.05.2013.
- 38) <http://www.ntvmsnbc.com/news/322829.asp>, 28.05.2013.
- 39) Baydar Y. Ilaclarda reklam. (2000) Milliyet, 28.05.2013.
- 40) Ucretsiz taramalara paydos. Medimagazin, 2004; 166.
- 41) Lexchin J, Mintzes B. Direct-to-consumer advertising of prescription drugs: the evidence says no. *Journal of Public Policy and Marketing*, 2002; 21: 194–201.
- 42) Weissman JS, Blumenthal D, Silk AJ, Zapert K, Newman M, Leitman R. Consumers reports on the health effects of direct-to-consumer drug advertising. *Health Affairs*, (Suppl.) Web Exclusives Jan-June 2003; V.3:82–95.
- 43) [http://www.aifd.org.tr/pdf/tanitim\\_ilkeleri\\_tr\\_2013.pdf](http://www.aifd.org.tr/pdf/tanitim_ilkeleri_tr_2013.pdf) , 10.03.2013.
- 44) <http://www.nutrasource.ca/ifos/>, 11.04.2013.
- 45) <http://www.ecolabelindex.com/ecolabel/bdih-certified-natural-cosmetics-seal>, 11.04.2013.
- 46) <http://www.ecocert.com/en/natural-and-organic-cosmetics>, 11.04.2013.
- 47) <http://www.bioderma.com/en/your-skin/mother-baby-child/babies-and-summer/the-biological-response-cellular-bioprotectionr-patent>, 16.04.2013.
- 48) <http://www.apilab.fr/en/home>, 16.04.2013.
- 49) Nazli Sevgi Sencan, Ismail Ustel. Research Articles- A Study on Information In Drug Advertisements: An Example From Turkiye. *FABAD J. Pharm Sci.* 1994; 19:51-55.

## 7. APPENDICES

### Appendix 1 – Score Tables

---



Advertisement	Journal	Month	Advertisement number	Brand/generic name	Company name	Reachability of information	Product information	Reference on product information	Pharmaceutical product package image	Picture contents	Pharmaceutical product advertised in other issues	Pharmaceutical product number advertised in one advertisement	Pharmaceutical class of product	not a drug claim	Company contact information	Social media information	Referenced health association	Which association?	Corporate movements of manufacturer	Price information	Warnings/precautions, adverse effect information	Place of sale
1	2	1	1	1	1	1	2	1	1	2	3	1	1	1	2	1	2	2	2	2	1	2
2	2	1	2	2	2	2	2	1	1	1	4	1	2	1	2	1	2	2	2	2	1	2
3	2	3	1	2	2	2	2	1	1	1	4	1	2	1	2	1	2	2	2	2	1	2
4	2	3	2	3	3	2	2	1	1	1	4	1	2	1	2	1	2	2	2	2	1	2
5	2	3	3	4	4	2	2	1	1	1	5	1	2	1	2	1	2	2	2	2	1	2
6	2	3	4	5	5	3	2	1	1	1	4	1	2	1	2	1	2	2	2	2	1	2
7	2	3	5	6	6	3	2	1	1	1	4	1	2	1	2	1	2	2	2	2	1	2
8	2	4	1	7	7	5	2	2	1	1	1	1	2	1	2	1	2	2	2	2	1	2
9	2	4	2	8	8	6	2	1	1	1	1	1	4	1	2	1	2	2	2	2	1	2
10	2	4	3	9	9	7	2	1	1	1	3	1	2	1	2	1	2	2	2	2	1	2
11	2	5	1	10	10	3	2	1	1	1	4	1	2	1	2	1	2	2	2	2	1	2
12	2	5	2	11	11	8	2	1	1	1	3	1	2	1	2	1	2	2	2	2	1	2
13	2	6	1	12	12	3	2	1	1	1	4	1	2	1	2	1	2	2	2	2	1	2
14	2	7	1	13	13	6	2	1	1	1	4	1	2	1	2	1	2	2	2	2	1	2
15	2	7	2	14	14	4	2	1	1	1	4	1	2	1	2	1	2	2	2	2	1	2
16	2	7	3	15	15	9	2	1	1	1	5	1	2	1	2	1	2	2	2	2	1	2
17	2	7	4	16	16	8	2	1	1	1	1	2	2	1	2	1	2	2	2	2	1	2
18	2	7	5	17	17	10	2	1	1	1	3	1	2	1	2	1	2	2	2	2	1	2
19	2	9	1	18	18	6	2	1	1	1	1	1	6	1	2	1	2	2	2	2	1	2
20	2	9	2	19	19	4	2	1	1	1	1	1	4	1	2	1	2	2	2	2	1	2
21	2	9	3	20	20	7	2	1	1	1	4	1	2	1	2	1	2	2	2	2	1	2
22	2	9	4	21	21	11	2	1	1	1	4	1	2	1	2	1	2	2	2	2	1	2
23	2	9	5	22	22	12	2	1	1	1	4	1	2	1	2	1	2	2	2	2	1	2
24	2	9	6	23	23	4	2	1	1	1	1	1	4	1	2	1	2	2	2	2	1	2
25	2	9	7	24	24	3	2	1	1	1	5	1	2	1	2	1	2	2	2	2	1	2
26	2	10	1	25	25	13	2	1	1	1	1	1	5	1	2	1	2	2	2	2	1	2
27	2	11	2	26	26	6	2	1	1	1	1	1	4	1	2	1	2	2	2	2	1	2
28	2	11	3	27	27	14	2	1	1	1	4	1	2	1	2	1	2	2	2	2	1	2
29	2	11	4	28	28	14	2	1	1	1	4	1	2	1	2	1	2	2	2	2	1	2
30	2	11	5	29	29	14	2	1	1	1	4	1	2	1	2	1	2	2	2	2	1	2
31	2	11	6	30	30	3	2	1	1	1	4	1	2	1	2	1	2	2	2	2	1	2
32	2	11	7	31	31	4	2	1	1	1	4	1	2	1	2	1	2	2	2	2	1	2
33	2	12	1	32	32	6	2	1	1	1	5	1	2	1	2	1	2	2	2	2	1	2
34	2	12	2	33	33	14	2	1	1	1	4	1	2	1	2	1	2	2	2	2	1	2
35	2	12	3	34	34	14	2	1	1	1	4	1	2	1	2	1	2	2	2	2	1	2
36	2	12	4	35	35	3	2	1	1	1	4	1	2	1	2	1	2	2	2	2	1	2
37	2	12	15	36	36	15	2	1	1	1	4	1	2	1	2	1	2	2	2	2	1	2



## 8. CURRICULUM VITAE

### MERVE COŞKUNOĞLU

**Adress/Telephone/E-mail:** Barbaros Mah. Halk Cad. Trio Konutlari A/25 Ataşehir İSTANBUL/TURKEY  
05335492543/mervegulecc@gmail.com

**Place and Date of Birth:** Milas, 10.04.1986

**Education:**

- 2010-Present Yeditepe University Health Graduate Studies  
Pharmacoeconomy and Pharmacoepidemiology
- 2005-2010 Yeditepe University Faculty of Pharmacy CGPA (3.39 / 4.00)

**Experience:**

- August 2012 – March 2014: Sandoz İlaç San.ve Tic. A.Ş. / Istanbul  
Pharmacovigilance and Regulatory Specialist
- October 2010 – August 2012: Eczacıbaşı-Baxter Hastane Ürünleri San.  
ve Tic. A.Ş. / Istanbul  
Pharmacovigilance and Regulatory Junior Specialist

**Foreign Languages:**

- English : Advanced

**Certificates and Awards:**

- November 2012 – Sandoz GmbH  
Certificate of Completion: PV advanced training and global meeting
- April 2011 – Quality Academia – PV Guidelines and Auditing
- March 2011 – Quality Academia –Regulatory and Pricing Training
- March 2011 – Baxter GmbH Germany  
Certificate of Completion: Performance of following up the daily  
Pharmacovigilance activities and excellence on business continuity
- February 2010 – MoH of Turkey General Directorate of Pharmaceuticals  
and Pharmacy Certificate of Completion: Pharmacovigilance Education
- December 2007 – Yeditepe University, Faculty of Pharmacy  
Cosmetology Project Competition: Awarded 1st place in marketing category