The Impact of Indirect Consumer Pharmaceutical Advertising on the Physician-Patient Relationship Quality

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Abstract

This study aims to investigate the importance of indirect consumer pharmaceutical advertising and its impact on the physician-patient relationship quality. The study also aims to investigate the impact of the patient's medical knowledge on the relationship between the indirect consumer pharmaceutical advertising and physician-patient relationship quality. The survey instrument in a questionnaire form was designed to achieve the aims of this study. The study had a pool of (171) physicians (dermatology, ENT, gastrointestinal) working in the private sector in Amman. 148 usable questionnaires were retrieved which represents (86%) response rate. The findings indicated that there is a statistical significant impact of the indirect consumer pharmaceutical advertising on the physician-patient relationship quality dimensions, which are: trust, satisfaction, communication, conflict handling, and no impact on physician-patient commitment. Also, the results showed, that the patient's medical knowledge increased the impact of indirect consumer pharmaceutical advertising on the physician-patient relationship quality.

Keywords: Pharmaceutical, Indirect Advertising, Relationship Quality, Jordan.

1. Introduction

In recent years, many changes have been made in the ways pharmaceutical products are being marketed and advertised. Activities conducted as part of pharmaceutical marketing and promotions are important components of educating and informing consumers and healthcare professionals about new treatments. Direct to consumer advertisements (DTCA) aim to inform patients of important treatment options, while pharmaceutical sales representatives work to get accurate, up to date information on medicines to healthcare professionals. In spite of this global change in the ways of pharmaceutical marketing, the only way of marketing pharmaceutical drugs applicable in Jordan is the pharmaceutical advertising that is addressed to healthcare professionals, whether they are physicians or pharmacists or any other health professional.

Somehow, customers may be indirectly affected by this advertising as their presence in hospitals, clinics or pharmacies may affect their buying decision or may affect their relationship quality with their physicians; and it may have a positive or negative impact due to their medical knowledge and health awareness. It is worth mentioning that raising the level of medical knowledge among the people is considered an important issue. Health is one of the most important priorities of people, which can be seen in the high level of health awareness among individuals. Patients' medical knowledge has become the cornerstone in the daily behavioral patterns of people which significantly affects their health. In general, the media is the main source of information and it plays a large and important role in building and configuring their individual cognitive and behavior. It also aims to increase the amount of information and experiences that weave attitudes, opinions and behaviors.

The pharmaceutical industry plays a vital role in the world's economy, as well as in ensuring the welfare of its citizens. The global pharmaceutical market was (US \$956 billion) recorded in (2011). While in Jordan the total expenditure on pharmaceuticals was (US\$ 653 million) in (2011) and rose to (US\$ 712 million) in (2012). While pharmaceutical exports rose to (US\$ 643 million) from (US \$503 million) in (2011), an increase of (US \$140 million) (*IFPMA*, 2013).

Jordan has one of the most modern healthcare infrastructures in the Middle East. Its healthcare system is a complex amalgam of three major sectors: public, private and donor. In Jordan, this industry constitutes a large and important part of the economy (Al Khattab and Abu Rumman, 2011). There is a great concern of the Jordanian government with regard to the field of health care, by which the total expenditure on health (public and private) had reached (US\$ 2.62 billion) in (2012), and the total expenditure on health as a percentage of gross domestic product (GDP) reached (8.4%) in (2011) but increased to (9.5%) in (2012), the average expenditure of each individual per year on health was recorded to be (332\$) (WHO, 2012), as well, the number of population per physician employed in the ministry of health was (1450) in (2012), (MOH, 2012). In (2013), the number of working pharmacists was (14750) pharmacists. While there were (2090) community pharmacies, (458) drug stores and (17) pharmaceutical manufacturing companies (JPA, 2013).

Based on the above discussion, the study purposes were to focus on pharmaceutical marketing and promotion, in order to understand the impact of this type of advertising on the physician-patient relationship quality which is positioned in many dimensions: the degree of satisfaction obtained by the patient from the

physician, the quality of physician-patient communication, the patient's trust toward the physicians, the degree to which the patient is committed to the physician and the treatment, and finally the way the physicians can handle conflicts between them and their patients.

2. Literature Review

Direct-to-consumer advertising (DTCA) is relatively a new area of prescription drug promotion. Until the mid-1980s, pharmaceutical companies were giving information about prescription drugs only to physicians and pharmacists. When these professionals thought it as appropriate, they gave that information to their patients. However, during the 1980s, some pharmaceutical companies began giving the general public more direct access to this information through DTCA. Up to this date only two nations permit DTCA, they are, New Zealand which started it in 1981 and United States which started it in 1997 (FDA, 2013).

In the U.S.A "Food and Drug Administration" (FDA) considered that DTCA are published in magazines and newspapers that are distributed to a general audience rather than to healthcare providers such as doctors, nurses, and pharmacists. DTCA can also be broadcasted through television or radio (FDA, 2013). Australian Medical Association (AMA) defined the DTCA as an advertising directed at the general public that may include any statement, pictorial representation or design, intended directly or indirectly only to promote the use or supply of goods or services (AMA, 2013). Limbu et al. defined DTCA as any promotional campaign by a pharmaceutical company providing prescription drug information to the general public through consumer-oriented media, thereby making a growing and sizeable contribution to media advertising revenue (Limbu et al., 2012). Based on these definitions, the Researchers defined the DTCA as a form of marketing promotion that is directed toward the end patient rather than the healthcare professionals. It includes Social media, TV, Radio, Emails, Medical brochures and journals. According to FDA; a drug is "prescription only" when medical professionals must supervise its usage, because patients are not able to use the drug safely on their own. Because of this, Congress laid out different requirements for prescription and non-prescription or "over the counter" drugs. Congress also gave the FDA authority to oversee prescription drug advertisements and dividing the DTCA. It was divided into 3 groups which are discussed below (FDA, 2013) :

Product Claim Advertisements: This is the most common of the three, it typically includes both the brand name and the illness the drug treats. They also describe the risks and benefits associated with taking the medication (Shaw, 2008).

Reminder Advertisements: Reminder ads give the name of a drug, but not the drug's usage. These ads assume that the audience already knows the drug's usage. It also does not have to contain risk information about the drug because the ad does not say what the drug does or how well it works. Unlike product claim ads, reminder ads cannot suggest anything about the drug's benefits or risks (FDA, 2013).

Help-Seeking Advertisements: It is also known as Disease-Awareness Communication. Its purpose is to create an awareness of symptoms or conditions among consumers (Shaw, 2008). Help-seeking ads describe a disease or condition but does not recommend or suggest a specific drug treatment. Some examples of diseases or conditions discussed in help seeking ads include allergies, asthma, high cholesterol, and osteoporosis. This type of ads encourages people with these symptoms to talk to their physicians (FDA, 2013).

According to Jordan Food and Drug Administration (JFDA), the Jordanian laws prevents the promotion of any drug or substance described as prescribed medicine, infant formulas or food supplements in any of the media, print, video or audio, or any other means unless after the approval of the Minister of Health; with the exception of pharmaceutical promotion that is directed to health care professionals (JFDA, 2013).

2.1 Indirect Consumer Pharmaceutical Advertising Tools

Pharmaceutical companies typically direct their marketing efforts and advertisements toward physicians, but patients may notice this type of advertising during their presence in clinics, hospitals or pharmacies and that may affect their purchasing decision. The marketing efforts directed at physicians is comprised of sales through sales representatives (detailing); internet detailing (e-detailing); sampling (provision of drugs at no cost); physician meetings and events; and advertisements in medical journals (Alkhateeb and Doucette, 2008). Physicians today are likely to receive drug information from a variety of sources like brochures and medical journals and more often, these sources can be accessed via the Internet (e-detailing) and the information could be seen by the patients and could affect their decisions. However these tools can be summarized as :

2.1.1 Internet (E-detailing): The Internet is becoming increasingly important as a source of health information. In the US, it has variously been estimated that between 57% and 75% of Internet users have used it to obtain health information. Also, that 5% of people who use the Internet on a typical day use it to find health information and 25% of searches through search engines involve health related issues (Pharm Committee, 2013). Electronic detailing (e-detailing) has been introduced in the last few years by the pharmaceutical industries as a

new communication channel for the promotion of pharmaceutical products to physicians. E-detailing means using digital technology: internet, video conferencing and interactive voice response (Alkhateeb, and Doucette, 2008). However, adoption of E-detailing requires physicians to change their habits, moving from one method of interaction with pharmaceutical companies to another, and in many cases trying on a new technology with which they are not completely comfortable with.

2.1.2 Medical Journals: Medical Journal advertising is one of the main sources of informing physicians about drugs. Physicians use advertising in medical journals as one of the main sources of information for newly marketed drugs and devices. Therefore, information provided in advertisements should be of high quality to support physicians to practice evidence based medicine (Fugh, 2006). In 2004, pharmaceutical companies in the United States spent (\$0.5) billion on journal advertising. The companies have been criticized for providing poor quality information that may negatively influence the physician's prescribing behavior (Othman et al., 2010). Internationally, two sets of guidelines have been developed for pharmaceutical advertising. In 1988, the World Health Organization (WHO) established the ethical criteria for medicinal drug promotion. These criteria constitute general principles for ethical standards that can be adopted by governments in national circumstances (Othman et al., 2010). The International Federation of Pharmaceutical Manufacturers Association (IFPMA) code of conduct sets standards for the ethical promotion of medicines by pharmaceutical companies. These guidelines provide recommendations on the type and quality of information that should be included in journal advertisements (Othman et al., 2010).

2.1.3 *Medical Brochures:* Printed materials are widely used as educational and promotional pharmaceutical tools. Stryer and Bero found that 42% of the printed materials distributed by drug representatives did not comply with Food and Drug Administration requirements, and 33% did not provide a balanced presentation of the benefits and risks (Paul et al., 2001).

2.1.4 Free Samples: Some physicians welcome visits from pharmaceutical sales representatives, while other physicians prefer not to directly engage with industry representatives. If the company decides to make its practice accessible to sales representatives, it probably will be offered product samples. Many drug and biological companies provide physicians with free samples that the physicians may give to patients free of charge. Pharmaceutical companies distribute over 15 billion dollars worth of medication samples to office-based physicians in the United States yearly. Over 90% of physicians receive free drug samples and over 50% of elderly patients report receiving at least one drug sample in a given year (Miller et al., 2008). Samples provide many benefits to patients, allowing them to begin treatment sooner, helping them find the right medicine before purchasing a full prescription, and offering an option for those who have difficulty affording their medicines (Pharma.org, 2013).

2.2. Physician-Patient Relationship Quality Dimensions

The physician-patient relationship is central to the practice of medicine and to achieving effective clinical outcomes. It is fundamental in providing and receiving excellent care, to the healing process and to improve outcomes. Quality is considered a critical determinant of firm competitiveness and long-term profitability of both service and manufacturing organizations. In the healthcare setting, quality is more difficult to define than other services such as those found within finance or tourism, mainly because it is the customer himself/herself and the quality of his/her life that is being evaluated. Some authors suggest that healthcare quality can be assessed by taking into account the perceptions of observers i.e. friends and family (Al Khattab and Abu Rumman, 2011). On the other hand, the quality has also been considered as the many elements in general practice settings. All practitioners can derive a deep sense of satisfaction through good physician-patient relationships. Physician-patient relationship is dfined as a therapeutic relationship based on trust, honesty, respect and a mutual desire to improve health outcomes (Belch and Belach, 2011). However, this study focused on the following dimensions:

- *Trust:* Patients must be able to trust their physicians with their lives and well being. Despite the fact that trust is a central element in the physician-patient relationship, the rapid changes in the health care system are feared by many to be threatening patients' trust in their physicians. Mainous (2003),defined the patients trust as a relationship between the patient and physician where the patient expects the physician to provide advices and treatments in the best interest of the patient. Moreover, a trusting relationship allows patients to share sensitive information and bring forth their "true agenda" and share their stories with the physician. Trust can be achieved by building a relationship between the patient and physician (Mainous, 2003).
- **Commitment:** A patient's non-compliance (non-commitment) with drug regimens can render drugs ineffective. Poor commitment occurs no matter the severity of the potential consequences. However, non-commitment does not only cause problems for patients but also contributes to large healthcare costs. The annual cost of non-commitment to the United States economy is a staggering \$100 billion in added health care expenses and lost productivity (Wosi'nska, 2005). Poor commitment means lower customer retention, as a result, it also affects other healthcare stakeholders not just the patients, it affects

both their health plan and employers. This problem has been called the holy grail of pharmaceutical marketing (Wosi'nska, 2005).

- Satisfaction: Patient satisfaction has been studied at length in various health care settings mainly by health care evaluators and health care providers. There have been a number of studies on satisfaction and its impact on medical care. Jamies and Fill (2011) defined patient satisfaction as the evaluation of structure, process, and outcomes of patient care and a predictor of patient behaviours such as utilization of care, continuity with a provider, and compliance. Al Khattab and Abu Rumman (2011) examined the increased interest in patient satisfaction related to medical care. Moreover, medication satisfaction has become increasingly distinct from other forms of satisfaction. However, the satisfaction with medication has been defined as patient evaluation of the process and outcomes associated with medications (Al Khattab and Abu Rumman, 2011).
- **Communication:** A physician's communication and interpersonal skills encompass the ability to gather information in order to facilitate accurate diagnosis, counsel appropriately, give therapeutic instructions, and establish caring relationships with patients. These are the core clinical skills in the practice of medicine, with the ultimate goal of achieving the best outcome and patient satisfaction, which are essential for the effective delivery of health care (Fong et al., 2010). There are many barriers to good communication in the physician-patient relationship, including patient's anxiety and fear, fear of litigation, fear of physical or verbal abuse, unrealistic patient expectations deterioration of doctor's communication skills; non disclosure of information; discouragement of collaboration and resistance by patients (Fong et al., 2010).
- **Conflict Handling:** Smith et al., (2007) defined conflict as a real or apparent incompatibility of parties' needs or interests. Conflict can involve unresolved problems from past interactions, struggles for power, the ways parties talk with each other, and the ways decisions are made. Conflict is widespread in healthcare, it commonly occurs between patients and providers, patients and payers, providers with their colleagues, and providers with healthcare administrators (Wiess, 2007).

2.3. Patients' Medical Knowledge

Patient's health literacy has been defined in a report by the Institute of Medicine in USA, as a limited ability to obtain, process, and understand basic health information and services needed to make appropriate health decisions and follow instructions for treatment. Patient's health literacy is increasingly recognized as a critical factor affecting physician-patient communication and health outcomes. According to (Shoemake and Alves, 2011; Al-Nsour, 2007; and Fong et al., 2010) this knowledge is based on three points, they are explained below:

- **Patient's Own experience:** The medication experience is an individual's subjective experience of taking a medication in his/her daily life. The experience may include positive or negative bodily effects. Subsequently, that may influence the patient when taking physicians' advice because of the gained expertise with the medication in his/her own body (Shoemake and Alves, 2011).
- **Patient's Own Knowledge:** Patient knowledge of drug therapy and disease still remains poor and patient's memory of instructions given by physicians is poor, since 50% of the information are forgotten almost immediately. However, educating the patients about their disease state and medication will result in the improvement of their knowledge regarding medication, increase their active participation in therapy and improve medication adherence, this may ultimately improve the outcomes, so the informed patients are more likely to comply with drug treatment programs, are less anxious and more secure (Al-Nsour, 2007).
- **Social Influences:** Another level of influence depends on social situation. An adult may decide to improve his or her health as a result of influences, such as advice from family, friends or siblings (Fong et al., 2010).

Building on the Above literature the model of the study and two hypotheses have been developed as follows:



Figure 1: Research Model

Ho.1: There is no significant impact of the indirect consumer pharmaceutical advertising on the overall physician-patient relationship quality.

Ho.2: Whenever the patient's medical knowledge is high; the impact of indirect consumer pharmaceutical advertising on the physician-patient relationship quality is low.

3. Research Methodology

The questionnaire was developed to collect data from the sample after reviewing some literature addressing (Khatib, 2012; Alshurideh and Masa'deh,2012; Al Khattab and Abu Rumman, 2011; Schueler 2008, and Murray *et al.* 2003), each of the variables examined in the study. It contained 37 statements as the following:

- Indirect Consumer Pharmaceutical Advertising (11 questions).
- Patient's medical knowledge (4 questions)
- Physician-patient relationship quality that includes five sub domains
 - Trust (5 questions).
 - Commitment (4 questions).
 - Satisfaction (4 questions),
 - Communication (4 questions),
 - Conflict handling (5 questions).

All items were measured using a 5-point likert type scale ranging from (1 "strongly disagree" to 5 "strongly agree"). The reliability of data collected were measured using Cronbach alpha coefficient; the reliability test was conducted to check for the indirect consumer pharmaceutical advertising, patients medical knowledge, and physician-patient relationship quality dimensions was good at 0.809. The instruments were submitted to a panel of experts for validation. The panel was asked to review the content of the items in each of the instruments and determine whether the items fell within the range of linguistic capabilities and understanding of the physicians. The questionnaire was refined through rigorous pre-testing and validating. During the pre-testing 10 physicians were taken as subjects and invited to comment on the questions and wording. Several items were removed or modified from the instrument, based on the feedback obtained from the exercise.

The population of the study is represented by the physicians working in the Jordanian health market. This study deals with a sample of those physicians represented by Dermatologists (Skin Physicians), Gastroenterologists (Digestive system physicians), and ENT physicians (Ear, Nose, and Throat); working in the private sector in Amman. They represent (171 Physicians) comprised of: (70) Dermatologists, (75) ENT physicians (26) Gastroenterologists (JMA, 2013). 148 usable and accepted questionnaires were retrieved which represents (86%) response rate , 43.2% were dermatologists, 43.9% were ENT, and 12.8% were gastrointestinal physicians as shown in table (1).

Specialist	No. of distributed	No. of accepted	Frequency
	questionnaire	questionnaire	percentage
Dermatologist	70	64	43.2
ENT	75	65	43.9
Gastroenterologists	26	19	12.8
Total	171	148	100%

4. Results and discussion

4.1 study sample characteristics

From table (2) it can be seen that, in gender terms, 69.6% were male and 30.4% were female. On the age

dimension, 10.1 % were from 25 – less than 35 years, 53.4 % were from 35 – less than 45 years, 16.2 % were from 45 – less than 50 years, 12.8 % were from 50 years – less than 55 and 7.4 % were more than 55 years old (Table 1). Regarding the experience 7.4 % have less than 5 years experience, 17.6 % have from 5 – less than 10 years work experience, 42.6 % have from 10 – less than 15 years experience, 23.6 % have from 15 – less than 20 years experience.

Variables	Attributes	Frequency	Percentage
Specialty	Dermatology	64	43.2
	ENT	65	43.9
	Gastrointestinal	19	12.8
	Total	148	100.0
Age	From 25 – less than 35 years	15	10.1
	From 35 – less than 45 years	79	53.4
	From 45 – less than 50 years	24	16.2
	From 50 years – less than 55 years	19	12.8
	More than 55 years	11	7.4
	Total	148	100.0
Gender	Male	103	69.6
	Female	45	30.4
	Total	148	100.0
Experience	Less than 5 years	11	7.4
	From 5 – less than 10 years	26	17.6
	From 10 – less than 15 years	63	42.6
	From 15 – less than 20 years	35	23.6
	More than 20 years	13	8.8
	Total	148	100.0

4.2 Data Analysis and Hypotheses Testing

The results that can be seen from the table (3), the means for the domains were from (3.22) to (3.61); The Patient's Medical Knowledge got the highest mean (3.61) and its SD was (0.54). The Indirect Consumer pharmaceutical Advertising mean was (3.22) and SD was (0.44), and the Physician-Patient Relationship Quality mean was (3.52) and SD was (0.299). These positive results could be due to increased health awareness of individuals and increase levels of education, in which the individuals became more interested in knowing the smallest details relating to their health, and due to the spread of the internet it became easier to get the information needed.

Table (3): Descriptive analysis			
Domain	Mean	SD	
Indirect Consumer Pharmaceutical Advertising (ICPA)	3.2230	0.44363	
Physician-Patient Relationship Quality	3.5293	0.29956	
Patient's Medical Knowledge	3.6166	0.54117	

From table 4, it can be seen that the indirect consumer pharmaceutical advertising significantly impacts on physician-patient relationship quality (R^2 =0.423, $P \le 0.05$) with approximately (42.3%) of the total differences in physician-patient relationship quality is determined through the indirect consumer pharmaceutical advertising. In other words, the strength of the link between indirect consumer pharmaceutical advertising and physician-patient relationship quality is (R=0.651). To show the impact of patient's medical knowledge as a moderate Variable on the relationship between indirect consumer pharmaceutical advertising and physician-patient relationship quality, table 5 shows that that the patient's medical knowledge relation with the other variables is (R = 0.530), whereas the study shows that (R^2 = 0.281) which means that (28.1 %) of the changes in the indirect consumer pharmaceutical advertising impact on physician-patient relationship quality is due to patient's medical knowledge.

Table(4): Simple regression analysis to measure the impact of ICPA on Physician-Patient RQ

R	\mathbf{R}^2	β	F	Sig.
0.651	0.423	0.651	107.160	0.000

Table (5): Hierarchal regression analysis to measure the impact of patient's medical knowledge on the relationship between ICPA and Physician-Patient RQ

Variable	ß	Т	Sig.
Indirect consumer pharmaceutical advertising (ICPA)	0.651	10.352	0.000
(ICPA*Patient's medical knowledge)	0.632	3.856	0.000

 $(R = 0.530 R^2 = 0.281, F = 28.315);$ *Significant level at $P \le 0.05$

From the above results, it was shown that the means for the study main domains were ranked "moderate"; the patient's medical knowledge got the highest mean, followed by the physician-patient relationship quality and at the final rank the indirect consumer pharmaceutical advertising. From the researchers point of view, these positive results could be due to increased health awareness of individuals and increased levels of education, in which the individuals became more interested in knowing the smallest details relating to their health, and due to the spread of the internet it became easier to get to the information needed. The study results showed that there is a statistically significant impact between indirect consumer pharmaceutical advertising and physician-patient relationship quality. In the other words, this could be due to the trust patients have in their physicians and their opinions, and when a patient sees an advertisement that is directed to the physician they discuss the information with their physicians and this improves the physician-patient trust, and the physicians pay great attention to patients' satisfaction by meeting their needs and wants and trying to engage the patients in deciding the best way for treatment. Regarding the second hypothesis the study results showed that there is a statistically significant impact between pharmaceutical advertising and physician-patient impact between indirect consumer pharmaceutical advertising and physician patient impact between indirect consumer pharmaceutical advertising the relationship quality due to patient's medical knowledge.

5. Conclusion

The study concludes that there is an impact of the indirect consumer pharmaceutical advertising on physicianpatient relationship quality like: trust, satisfaction, communication, and conflict handling. It also showed that patient's medical knowledge increases the impact of indirect consumer pharmaceutical advertising on the physician-patient relationship quality. The study suggests that pharmaceutical companies and JFDA have to put more restrictions on the pharmaceutical advertisements that is directed to the physicians to make sure that they reach the healthcare professionals only. The study recommends maximizing the benefits of pharmaceutical advertisements by increasing the accuracy of information in advertisements, and that the advertisement should reflect the balance between risks and benefits. In addition, the study strongly encourages the consumer to discuss medications with healthcare professional as the health care provider is often a better source of information. It also recommends putting more restrictions on pharmaceutical advertisement on satellite channels to suit the laws and regulations. Finally the study suggests doing more researches about the impact of pharmaceutical advertising on physician-patient relationship quality because of the lack of studies about this subject in the Jordanian health market.

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