**Price and Pharmaceutical Marketing**

The price of pharmaceutical products plays a vital role in promoting drugs to doctors. Pharmaceutical prices are heavily regulated with price fluctuations rare and small but there are various factors can increase the price of medicines in the United States;

* Patents and Market exclusivity prevent regular price competition
* The existence of multiple insurers breaks down the power of buyer to negotiate price
* The absence of a national health technology assessment system that limits the ability to set prices. [1]

**How do doctors and patients react with expensive drugs?**

According to publication “Modeling the effects of pharmaceutical marketing”, physicians work in the interest of patients and do not have a financial stimulus to be price sensitive [5]. Physicians’ price sensitivity comes second to considerations about drug efficacy and patients’ conditions. [11]

Insured patients are likely not price sensitive and have little awareness of the retail price of their prescription. [5]

**Effect of marketing expenses on price sensitivity**

Hurwitz and Caves (1988), Rizzo (1999), and Windmeijer et al. (2005) find that marketing expenses reduce price sensitivity and conclude that marketing expenses have a mainly convincing effect but for Leffler (1981) marketing efforts can increase price sensitivity. The results of the study “Modeling the effects of pharmaceutical marketing” show that the demand for the large majority of the brands is not affected by the price and there is no evidence that marketing expenses reduce price sensitivity.

**Peak sales and pharmaceutical marketing**

Marketing expenses increase the level of peak sales, while reducing time to peak sales. In the first two years after the launch of the drug, pharmaceutical companies focus their marketing efforts that lead to high sales but slow sales growth in subsequent years when marketing efforts are limited.

Windemeijer et al. (2006) also find that promotion primarily expands market share, while Rizzo (1999) finds evidence that promotion expands the size of the market.

According to the “**Drivers of peak sales for pharmaceutical brands**” publication, the Variables that affect peak sales of pharmaceutical brands are; [6]

1. Potential peak-sales drivers
2. Effects of order of entry and quality Marketing support
3. Competitive marketing support
4. Number of competitors
5. Price

**DTCA AND REGULATION**

DTCA can affect almost all patients in every country, in one way or another, thus raising its share of ethical issues. Consumers will be subject to DTCA in countries that allow the advertisement of drugs but may still be subject to DTCI campaigns sponsored by pharmaceutical companies in countries that do not allow DTCA. DTCC may not have so much an informational purpose, but rather a promotional one in relation to a given product, and that motivations other than “care” are underlying such messages.[4]

In addition, DTCA has the ability to educate people about specific situations, encourage the request for professional assistance, and may lead to treatment that would not have been otherwise (Masson and Rubin 1985; Lyles 2002; Chao 2005; Almasi et al. 2006).

But the rapid uptake of new drugs due to DTCA can cause a problem when the new uses are for patients who are not a good match for the drug. (Spence et al. 2005; Kravitz et al. 2005).

In a review of 16 studies, Wazana (2000) found that interactions with pharmaceutical companies were associated with:

* Requests for addition to the formulary for the sponsored drug which are not clearly advantageous compared to the existing formulary drugs;
* Prescribing practices in favor of the sponsored drug;
* Preference and prompt prescription of new drugs
* A reduction in the prescription of generic drugs in favor of new drugs with no apparent benefits

According to the results of “THE EFFECTS OF PHARMACEUTICAL MARKETING AND PROMOTION ON ADVERSE DRUG EVENTS AND REGULATION”study, the effect of promotion and advertising in improving communication between patients and doctors can increase well-being if doctors can identify who best fits the treatment. [2]

**Yemen and Pharmaceutical Marketing**

A study was conducted in Yemen to evaluate the interaction between the medical representative and doctors; [3]

Yemen as a developing country with a different culture and health care system for developed countries.

Pharmaceutical Marketing properties:

\_ Lack of organized anti-drug promotion

\_ The absence of a clear mechanism for monitoring promotional activities

\_ Little information is available regarding the dynamics of the relationship between MRs and physicians.

The sample size is 385 individuals, calculated based on the Equation developed by Cochran.

The results of the study revealed that promotional materials such as magazines, textbooks and antibiotic guides were considered appropriate by a large majority of respondents, but more than half of all respondents considered cell phones inappropriate.

In addition, Doctors believe that attending a dinner and a lecture given by an academic sponsored by a pharmaceutical company is more acceptable than accepting an invitation to a meal in a restaurant or hotel without a lecture.

The majority of respondents confirm that they will continue to see MRs even if they stop giving gifts and drug samples for use in their practice.

The majority also considered that MRs were a useful means of identifying new drugs. However, a clear majority of respondents felt that conversations sponsored by the pharmaceutical company were often biased in favor of their products (the information provided by MRs is insufficient or, even worse, misleading because they believe that the MRs approach is to sell products and not to spread information), although most respondents disagreed with the statement that MR wasted doctors’ time.

**Differentiation and Pharmaceutical Marketing**

A study conducted in US “Longitudinal Study on the Performance of U.S. Pharmaceutical Firms: The Increasing Role of Marketing” shows significant implications for advertising and product differentiation on the market value of companies.

The financial reason for the pharmaceutical market is due to the frequent release of additional drugs, the effective use of advertising and the escalation of research and development.

It’s clear that incorporating product differentiation can give a more complete picture of the core values of publicly traded drug companies.

**Interaction between pharmaceutical representatives and physicians**

A qualitative meta-synthesis (the process of combining a set of similar qualitative studies with the aim of developing an interpretation of the results) was conducted to explore the interaction between drug representatives and doctors. [8]

**Six general themes were formulated for the results section;**

1. The frequency of pharmaceutical representatives’ visits
2. Ethical acceptance of the PR-physician interactions
3. Physicians’ attitudes towards PR visits
4. Physicians’ perceptions of the effect of PR visits on prescription patterns
5. Reasons to accept/reject PRs
6. Guidelines

A total of 15 publications were included in the study covering studies conducted in a group of countries; six from the United States, two from Libya, and one each from Turkey, Peru, India, Germany, the United Kingdom (United Kingdom), Yemen, and Japan.

\_ Two studies showed that pharmaceutical representatives visited physicians working in private clinics more frequently than physicians working in community and university hospitals.

\_ Teaching physicians and pediatricians have been reported to receive more frequent visits, while anesthesia has been found to be less visited by pharmaceutical representatives.

\_ A study reported that the more frequently visited physicians were more likely to consider the information provided to be of “high quality.

\_ In India some physicians justify gifts as compensation for the time they spent listening to medical representatives, which was the time they would have spent on the patient. "The major beneficiaries have not attempted a bribe to sell their medication”. The gifts are just a sign of thanks for the time given by the doctor to the medical representative.

\_Wang et al. showed two essential factors to changing prescribing behavior: information provided by medical representatives and availability of samples

(36% (n=32) of ophthalmology trainees reported having changed prescribing behavior based on the information provided by a PRs, 77% (n=94) stated that they changed prescribing behavior based on the availability of medicine samples).

\_ All 15 included studies illustrated one common point that physicians almost always believe that such interactions can influence their colleagues’ prescription patterns but not theirs.

\_ Reasons to accept medical representatives:

* Sponsorship, gifts
* Social aspect of the interaction
* Courtesy and tradition

\_ Reasons to avoid medical representatives:

* Personal style
* Company
* Kind of drugs
* Bad experience with medical representatives and commercial context
* Obligations to other companies
* Lack of conviction about the product
* Lack of credibility of medical representatives
* Workload or inappropriate timing of visits

\_ As evidenced by a meta-synthesis, the attitude of physicians towards medical representatives is a very critical determinant of the possibility of medical representatives indirectly affecting patient health in a positive or negative way. The studies reported in the meta-synthesis were conducted in nine different countries with different economies, cultures, and education / health care systems significantly different, but the positive attitude of physicians towards pharmaceutical representatives was evident in each.

\_ Physicians are immune from any potential marketing influence. This is mainly because most of physicians believe that they have the required expertise and knowledge to assess the presented information and distinguish the valid information from the exaggerated, biased information.

\_ This meta-synthesis shows that physicians generally see meetings with medical representatives as advantageous to everyone: the patients, because they receive free drug samples, the hospital/clinic, because they would receive stationery, books, and, most importantly, themselves, as these meetings help them to stay up-to-date and aware of newly launched medications.

Future research should focus on educating medical students to correct their perception of immunity against marketing which may hold them back from critically appraising the information provided by PRs. This will ensure that patients do not bear the cost of competition between pharmaceutical companies.

**Patients and Pharmaceutical Marketing**

Patient culture influences their beliefs and attitudes. In Pakistan, 62% of respondents to a survey agreed that a “doctor is next to God” and 88% of respondents agreed it is appropriate for doctors to accept gifts from pharmaceutical companies. In Turkey, 71% of respondents to a survey agreed that accepting gifts from pharmaceutical company was unethical.

One study found the potential association between perceived relationship with pharmaceutical industry and decreased trust in physicians, this requires more attention due to potential impact on patients' clinical decisions. [10]

**Research:**

\_ Explore the knowledge, beliefs and attitudes of patients and the general public towards physician-industry interactions and the effect of patients on prescribing pattern.

\_ Effect of drug price on prescribing pattern.

\_ Digital marketing and experience of physicians during covid19

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