**I -Global Pharmaceuticals Market**

The pharmaceutical industry significantly influences the economy and healthcare system of a country. According to the World Health Organization (WHO), by 2017, the global pharmaceuticals market will be worth approximately US$400 billion with one third of the sales revenue of pharmaceutical companies spent on marketing their products. It was estimated that 84% of pharmaceutical marketing efforts are directed toward physicians because from the manufacturer’s point of view, physicians are the key decision makers, the gatekeepers to drug sales.

**II -Lebanese Pharmaceutical Market**

-Lebanon is an upper middle-income country, with about 40% of the population having no health insurance coverage. Although only around 20% of drugs consumed are thought to be reimbursed, Lebanon’s per capita pharmaceutical spending is considered one of the highest in the Middle East.

-According to BMI's (Business Monitor International) estimates, pharmaceutical sales in Lebanon are forecast to rise by an annual 4.9% from $1.82 billion in 2017 to $1.91 billion in 2018. By 2022, BMI expects total pharmaceutical sales to amount to $2.32 billion which corresponds to a compound annual growth rate (CAGR) of 5.0 %.

- **Aggressive competition** exists between the pharmaceutical companies in Lebanese market, due to the registration of many medications that contains the same active ingredients (for example: 22 generics are registered in Lebanon that contains the same active ingredient 'Atorvastatin 20mg').

**- Lebanese Code of Ethics (2016)** sets regulatory frameworks that ensure respect of legal, ethical and scientific principles in medicine market to serve patient as well as medical and pharmacy professions in Lebanon. It allows: The Gifts with modest or symbolic value are allowed (10% of monthly minimum wage, Related to drug promoted, It is beneficial to patient care, directly related to professionals' practices); Sponsoring the participation of healthcare professionals in events outside Lebanon can include travel expenses, accommodation, registration fees, and meals; Sponsoring Educative conferences/congresses/symposia.

**III -The most influential tools of promotion used by the pharmaceutical companies in Lebanon:**

1-Visits of medical representatives;

The majority of physicians are motivated by the visits of medical representatives.

The Reasons why doctors accept the visits of medical representatives are:

- To stay up-to-date and aware of newly launched medications;

-One incentive behind meeting medical representatives is the sponsorship, gifts and products provided by them;

-Social aspect of the interaction;

-Some physicians considered these meetings as a chance for social interaction and as a break from their busy work routine.

2-Drug Samples

Physicians consider these gifts to be the most ethically acceptable and a great advantage of meeting with medical representatives.

In Lebanon 34.8% of physicians are motivated by the drug samples. Most physicians use free samples to treat their patients.

There are doctors in Lebanon who don’t accept the visit of medical representative if he hasn’t a sample.

3-Gift

Lebanese physicians are aware and are more considering the acceptance of small, low-cost gifts permissible than non-permissible even if the majority of them didn’t receive a copy of the 2016 code of ethics for medicinal products.

There is a growing body of evidence which suggests that even gifts of minimal values can hold powerful influence on physician behavior in the spirit of reciprocity.

4-Medical education conferences

5-Sponsorship for travel/ expenses in conferences/ sponsorship for a personal tour.

**IV-Illegal promotional practice and negative impact between the medical representatives and physicians**

In medical practice, the most commonly observed conflicts of interest are the one existing in the relations between medical representatives and physicians.

-In Lebanon, two studies have shown that interactions and medical inducement between pharmaceutical representatives and physicians have a negative impact on prescribing pattern.

-The Guardian investigated allegations of sexual favors and bribery by employees of an international pharmaceutical company in Jordan and Lebanon.

-Doctors' demand for gifts and other incentives, they look to every medical representative as a blank check for themselves.

-"Some physicians said that when affronted by two similar drugs from competitor companies, they were inclined to prescribe the drug from the company that provided them the incentive. They indicated that it was a sense of obligation towards that company that drives their decision"

**V -The pharmaceutical marketing and promotion practices in Lebanon are blamed for irrational prescribing habits and their consequences;**

-A report was published in 'executive magazine' in 2015 by EL-Jardali and Fadlallah where it was found that 40 percent of all prescriptions in seven hospitals in Lebanon contained an error, of which 9 percent were unnecessary medication prescription, 7 percent were non-indicated medication, 6 percent had a deficiency in the prescribed medication dosage, 3.5 percent had an inadequate duration and 2.8 percent had an inadequate rate.

-A study by the Ministry of Public Health (MoPH) and the WHO shed light on the serious issue of antimicrobial resistance which was attributed to the inappropriate use of antimicrobials, overuse of injections and failure to prescribe in compliance with clinical guidelines and inappropriate self-medication of prescription-only medicines (WHO, 2015).

-Some doctors prescribe the same medication from two companies to keep receiving their deals, for example, two anti-inflammatory medications with different brand names, one pill in the morning and one pill at night.

**VI -Research**

Very few studies exist on the influence of pharmaceutical marketing on physicians' prescribing pattern in Lebanon.

For good understanding of drug companies' influence on physicians, the study should:

-Explore the nature of the interactions between pharmaceutical companies and physicians

- Examine the effect of the frequency of pharmaceutical representatives' visits

- Determine the attitude held by physicians towards visits by pharmaceutical representatives

-Identify reasons to accept or reject the visits of the pharmaceutical representatives

- Find the most influential tools of promotion

- Examine the perceived ethical acceptability of the interactions between pharmaceutical representatives and physicians

While we concerned with the process of prescription we must also take into account many reasons why prescribing a specific medication may be unaccepted by some physicians and not by others.

Different demographic factors influence physicians' prescribing pattern; the age, gender and location have been studied.

Some others factors can have an impact on prescribing pattern such as:

-The Specialist of doctors (Gynecologist, Pediatric, Orthopedist, Generalist…)

**Hypothesis 1: There is a relation between physicians prescribing pattern and the specialists of doctors?**

(Example: The Generalists are more willing to prescribe new drugs?)

-The turnover of patients (Pharmaceuticals companies classify physicians in three categories, according to which they decide on how much incentives they would provide: A (high turnover of patients), B (highest turnover in their respective region) and C (low turnover of patients)).

**Hypothesis 2: There is a relation between physicians prescribing pattern and the turnover of patient?**

(Example: The doctors of class A are more willing to try new drugs?)

**VII -Importance of this study:**

Inappropriate drug prescriptions have a negative impact on quality and safety of treatment, promote drug resistance, diminish patient trust in the healthcare system and increase the economic burden on the patient and the healthcare system at large.

To diminish the irrational prescribing habits, all the factors influence the physicians' prescribing pattern should be identified and examined.

There is an urgent need, in Lebanon, to discuss the factors that affect the physicians' prescribing and to develop guidelines to improve the ethical and scientific quality of information imparted through medical representatives.

From a managerial perspective, the pharmaceuticals companies need to identify the factors that influence the physicians 'prescribing pattern in order to choose the effective promotional tool and focus their effort in definitive area to increase their benefits.

**VIII- Methods:**

-A questionnaire survey will be distributed for more than 500 physicians (divers specialist, divers classes, divers location, divers age, divers gender...)

-A questionnaire survey will be distributed for more than 100 medical representatives.

-Explore the tools of promotion for some medication (through interview with some doctors) that achieve high sales.

IX**-References**

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