إقـــــرار

أنا الموقع أدناه مقدم الرسالة التي تحمل العنوان:

تعرض أطباء المستشفيات بوزارة الصحة واتجاهاتهم نحو الممارسات التسويقية لشركات الأدوية في قطاع غزة

Exposure and Attitudes of MOH Hospitals' Physicians toward the Marketing Practices of Pharmaceutical Companies in the Gaza Strip

أقر بأن ما اشتملت عليه هذه الرسالة إنما هو نتاج جهدي الخاص، باستثناء ما تمت الإشارة إليه حيثما ورد، وإن هذه الرسالة ككل أو أي جزء منها لم يقدم من قبل لنيل درجة أو لقب علمي أو بحثي لدى أي مؤسسة تعليمية أو بحثية أخرى.

DECLARATION

The work provided in this thesis, unless otherwise referenced, is the researcher's own work, and has not been submitted elsewhere for any other degree or qualification

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The Islamic University of Gaza
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Exposure and Attitudes of MOH Hospitals' Physicians toward the Marketing Practices of Pharmaceutical Companies in the Gaza Strip

تعـــرض أطبـــاء المستشـــفيات بـــوزارة الصـــحة واتجاهـــاتهم نحـــو الممارســـــات التســـــويقية لشـــــركات الأدويـــــة في قطـــاع غـــزة

By:

Hazem Ghaleb Said Ammar

Supervisor:

Dr. Rushdy Wady

A Thesis Submitted in Partial Fulfillment of the Requirements for the Degree of Master in Business Administration

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نتيجة الحكم على أطروحة ماجستير

بناءً على موافقة شئون البحث العلمي والدراسات العليا بالجامعة الإسلامية بغزة على تشكيل لجنة الحكم على أطروحة الباحث/ **حازم غالب سعيد عمار** لنيل درجة الماجستير في **كلية *التجارة*/ قسم إدارة الأعمال** وموضوعها:

تعرض أطباء المستشفيات بوزارة الصحة واتجاهاتهم نحو الممارسات التسويقية لشركات الأدوية في قطاع غزة

Exposure and Attitudes of MOH Hospitals' Physicians toward the Marketing Practices of Pharmaceutical Companies in the Gaza Strip

وبعد المناقشة العلنية التي تمت اليوم الأحد 11 ربيع الآخر 1436 هـ، الموافق 2015/02/08م الساعة الواحدة والنصف ظهراً بمبنى القدس، اجتمعت لجنة الحكم على الأطروحة والمكونة من:

د. رشدي عبد اللطيف وادي	مشرفًا ورئيساً
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د. بسام عبد الجواد أبو حمد	مناقشاً خارجياً

وبعد المداولة أوصت اللجنة بمنح الباحث درجة الماجستير في **كلية *التجارة*/ قسم إدارة الأعمال.**

واللجنة إذ تمنحه هذه الدرجة فإنها توصيه بتقوى الله ولزوم طاعته وأن يسخر علمه في خدمة دينه ووطنه.

والله ولي التوفيق ،،،

مساعد نائب الرئيس للبحث العلمي و للدراسات العليا

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﴿ قُلْ إِنَّ صَلَاتِي وَنُسُكِي وَمَحْيَايَ وَمَمَاتِي لِلَّهِ رَبِّ الْعَالَمِينَ ﴾

صدق الله العظيم

[سورة الأنعام - الآية 162]

Dedication

*To my great **parents**, who never stop giving of themselves in countless ways.*

*To my lovely wife, **Daad** who leads me through the valley of darkness with light of hope and support.*

*To my beloved brothers and Sister, **Mohammed, Belal** and **Duaa** who stand by me when things look bleak.*

*To my sweetheart kids, **Ghaleb, Lian and Mohammed** whom I can't force myself to stop loving.*

*To my dear **friends and colleagues** who encouraged me to accomplish this research.*

*To my angel, **Sirag** who moved away to heaven, I will see you one day again.*

I dedicate this work to all of you and pray God Almighty to be beneficial.

Researcher

Hazem Ghaleb Ammar

Acknowledgment

In the Name of Allah, the Most Merciful, the Most Compassionate. All praises be to Allah, the Lord of the worlds; and prayers and peace be upon Mohamed His servant and messenger.

First and foremost, I must acknowledge my limitless thanks to Allah, for giving me the courage, determination, and guidance in conducting this study, despite all difficulties

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Last but not least, my deep gratitude is due to *my family, my parents, my wife, brothers, sister, sons and daughter,* who have been the sources of strength and guidance. Thanks to them for always providing me with their care and never ending support.

Abstract

This study aims to identify the exposure and attitudes of Ministry of Health hospitals' physicians toward the marketing practices of pharmaceutical companies in the Gaza Strip. To fulfill the aim of the study, the researcher followed the descriptive analytical approach and a self-administered questionnaire was used for data collection. The study population was 1,399 physicians who were working at 13 Hospitals of Ministry of health in data collection period. The collected questionnaires were 309 out of 380 distributed questionnaires and 304 questionnaires were usable. Data were analyzed by Statistical Package for Social Sciences program for statistical analysis.

The study results reveal that Ministry of Health hospitals' physicians are highly exposed to the marketing practices of pharmaceutical companies in the Gaza Strip, and they have a positive attitude toward these practices in general. Moreover, the physicians agreed on the importance and credibility of information provided through these marketing practices. Most physicians were exposed to and preferred marketing practices of local and foreign pharmaceutical companies. The physicians were willing to participate in the marketing practices, they perceive these practices influence their prescribing behaviour and they are prepared to the regulation of marketing practices.

The results reveal that there were statistically significant differences among MOH hospitals' physicians in their exposure due to some physicians' characteristics including average monthly income, educational degree, job rank, specialty, participating in committees, hospital and department the physician work at, having a private clinic, average number of patients treated by physician per day and average number of prescriptions prescribed by physician per day. In contrast, there are statistically significant differences among MOH hospitals' physicians in their attitudes due to some physicians' characteristics including specialty, hospital and department the physician works at and the location of the private clinic.

Correlation analysis indicates that the attitude of physicians is significantly, positively and weakly correlated with their exposure. The attitude of the physicians is significantly, positively and strongly correlated with their willingness to participation in the marketing practices, while it is not significantly correlated with their perception about the influence of these marketing practices on their prescribing behaviour. At the same time it is significantly, negatively and weakly correlated with their preparedness to the regulation of marketing practices.

The study proposes a framework to govern the interaction between physicians and pharmaceutical companies. The framework proposes full collaboration between physicians and pharmaceutical companies but under regulation and monitoring from MOH and professional associations. In addition, it emphasized the linking of the objectives of marketing practices of the pharmaceutical companies with the objectives of medicine practice to achieve the major goal of patients' benefit.

Abstract in Arabic

ملخص الدراسة

تهدف هذه الدراسة إلى تحديد تعرض أطباء المستشفيات بوزارة الصحة واتجاهاتهم نحو الممارسات التسويقية لشركات الأدوية في قطاع غزة. انتهج الباحث المنهج الوصفي التحليلي مستخدما استبانة كأداة لجمع المعلومات من مجتمع الدراسة الذي يتكون من 1399 طبيبا موزعين على 13 مستشفى تابعة لوزارة الصحة في قطاع غزة. وقد تم جمع 304 استبانة من أصل 380 استبانة تم توزيعها، حيث تم تحليل البيانات باستخدام برنامج التحليل الإحصائي (SPSS).

تبين النتائج أن أطباء المستشفيات يتعرضون بشكل كبير للممارسات التسويقية لشركات الادوية بقطاع غزة ولديهم اتجاه ايجابي نحو هذه الممارسات بشكل عام. إضافة لذلك، فإنهم يوافقون علي أهمية ومصداقية المعلومات التي تقدم من خلال هذه الممارسات التسويقية. تظهر النتائج أيضا ان معظم الأطباء يتعرضون ويفضلون الممارسات التسويقية لشركات الأدوية المحلية والأجنبية . كما و أن أطباء المستشفيات يبدون رغبة بالمشاركة في هذه الممارسات بالرغم من أنهم يرون أن هذه الممارسات تؤثر في سلوكهم الوصفي للعلاج كما وأنهم على جاهزية لتنظيم هذه الممارسات التسويقية.

تظهر نتائج التحليل أن هناك فروقات ذات دلالة إحصائية بين أطباء المستشفيات في تعرضهم لهذه الممارسات التسويقية من حيث بعض خصائص الأطباء مثل متوسط الدخل الشهري، الدرجة الأكاديمية، المستوى المهني، التخصص، المشاركة في اللجان، المستشفى و القسم اللذان يعمل بهما الطبيب، امتلاك عيادة خاصة، متوسط عدد المرضى ومتوسط عدد الوصفات الطبية اليومية لكل طبيب. ايضا فإن هناك فروقات ذات دلالة إحصائية بين أطباء المستشفيات في اتجاهاتهم نحو هذه الممارسات التسويقية من حيث بعض خصائص الأطباء مثل التخصص، المستشفى و القسم اللذان يعمل بهما الطبيب، موقع العيادة الخاصة.

يظهر تحليل الارتباط وجود ارتباط ذي دلالة إحصائية بين اتجاه و تعرض الأطباء للممارسات التسويقية وهذا الارتباط كان إيجابيا و لكنه ضعيف. كما و يظهر وجود ارتباط ذي دلالة إحصائية بين اتجاه الأطباء ورغبتهم بالمشاركة بهذه الممارسات وهذا الارتباط كان ايجابيا و قويا. ولكنه لم يظهر وجود ارتباط ذي دلالة إحصائية بين اتجاه الأطباء و انطباعاتهم حول أثر هذه الممارسات على سلوكهم الوصفي للعلاج، وبالمقابل كان هناك ارتباط ذو دلالة إحصائية بين اتجاه الأطباء و جاهزيتهم لتنظيم هذه الممارسات و كان هذا الارتباط ايجابيا و لكنه ضعيف.

وتخرج هذه الدراسة بمقترح إطار عمل للتعاون بين الأطباء و شركات الأدوية و لكن ضمن تنظيم رقابة من قبل وزارة الصحة و الجمعيات المهنية. كما وتؤكد الدراسة على وجوب ربط أهداف الممارسات التسويقية بأهداف ممارسة الطب لتحقيق الهدف الأسمى و هو مصلحة المرضى.

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List of Abbreviations

AMA	American Medical Association
CME	Continuing Medical Education
CSD	Cegedim Strategic Data
DTC	Direct-To-Consumer
DTP	Direct-To-Physician
FDA	Food and Drug Administration
GDP	Gross Domestic Product
IFPMA	International Federation of Pharmaceutical Manufacturers Association
IMS	Intercontinental Marketing Services
IUG	Islamic University-Gaza
MMS	Military Medical Services
MOH	Ministry of Health
MRA	Medicines Regulatory Authority
NGOs	Non-Governmental Organizations
NIS	New Israeli Sheqel
OECD	Organization for Economic Co-operation and Development
OTC	Over the Counter
PCBS	Palestinian Central Bureau of Statistics
PCR	Pharmaceutical Company Representative
PHC	Primary Health Care
PhRMA	Pharmaceutical Research Manufacturers' Association
PMS	Post Marketing Surveillance
PNGO	Palestinian Non-Governmental Organization Network
POM	Prescription Only Medicine
R&D	Research and Development
SESRIC	Statistical Economic and Social Research for Islamic Countries
UNRWA	United Nations Relief and Works Agency for Palestine Refugees
USD	United States Dollar
WHO	World Health Organization

Chapter One: Introduction

CHAPTER OUTLINE

1.1 Introduction

Marketing is the process of creating, communicating, and delivering value of a product or service to customers (American Marketing Association, 2013). It is a critical function for any business success. Pharmaceutical marketing is broadly defined by the definition of the United State Department of Health and Human Services (2006) as the business of advertising or otherwise promoting the sale of pharmaceuticals or drugs.

The global pharmaceutical market is expected to reach nearly USD 1.1 trillion by 2015, according to Intercontinental Marketing Services (IMS) Institute for Healthcare Informatics (IMS Health, 2011). This growth will happen while the number of new innovative drugs is less and less, and Research and Development (R&D) are no longer the driving force for growth in pharmaceutical industry (Szalkai & Janko, 2011). Therefore, to grow and remain profitable, for a pharmaceutical company, investment in marketing activities may be the key drive of success or even the lifeline to maintain business. In addition, expiring drug patents and globalization increase the pressure on pharmaceutical marketing to achieve sales growth.

In response to these facts, pharmaceutical companies invest a large sum of money to market their drugs. They become among the biggest spenders on marketing, where the ratio of the marketing expenditures to the sales may be as high as 20% (Fischer, 2014). In Palestine, this ratio range between 10-20% with high growth in last few years, as financial reports of local pharmaceutical companies show (Jepharm, 2014; Pharmacare, 2014).

The pharmaceutical companies use different marketing practices to promote their drugs, by targeting any healthcare professionals who may influence the drugs' choice decisions. Because physicians act as the gatekeepers to the prescription of drugs, it is no surprise that pharmaceutical companies marketing practices primarily target physicians (Studdert, et al., 2004).

The interaction between physicians and pharmaceutical companies, at a particular healthcare setting, include two key dimensions, which are under the scope of this study, the *exposure of physicians* to the marketing practices of pharmaceutical companies and the *attitude of physicians* toward these practices (Alssageer & Kowalski, 2013; Balharam, et al., 2012; Siddiqi, et al., 2011; Korenstein, et al., 2010; Lieb & Brandtonies, 2010; Saito, et al., 2010; Morgan, et al., 2006).

This interaction has become a major topic of controversy for health researchers, policymakers, as well as the media (Brennan, et al., 2006). The spectrum of opinions, concerns and policies regarding this interaction ranges from very conservative positions that argue to ban all interactions between physicians and pharmaceutical companies to more liberal positions that call for free collaboration, with many positions in between.

Despite these concerns about the interaction between physicians and pharmaceutical companies, no previous studies seek to explore the current situation of physicians' exposure and attitude to marketing practices in the Gaza Strip.

1.2 Research Problem

The literature shows a high level of exposure of physicians to the marketing practices of pharmaceutical companies with positive attitudes in general (Alssageer & Kowalski, 2013; Balharam, et al., 2012; Siddiqi, et al., 2011; Korenstein, et al., 2010; Lieb & Brandtonies, 2010; Saito, et al., 2010; Morgan, et al., 2006).

There is a mounting of evidence which suggests that physicians' interaction with pharmaceutical companies influence clinical decision and prescribing behaviour in a way that is not always in the best interests of patients (Spurling, et al., 2010).

Pharmaceutical marketing guidelines as formal regulations and ethical codes exist in many developed countries to prevent or discourage potentially illegal and unethical practices. In contrast, most of the developing countries do not have such formal regulations or ethical codes to govern the interaction between physicians and pharmaceutical companies (Alssageer & Kowalski, 2012).

In the Gaza Strip, this interaction seems to be more complex, ambiguous and connected to many critical insights. Large number of pharmaceutical companies and drug wholesalers are competing on small market, which is declining by the huge amounts of illegal drugs which penetrate it through tunnels from Egypt. All of pharmaceutical companies fiercely compete to promote their drugs by changing physicians' prescribing behaviours.

The influx of Pharmaceutical Companies Representatives (PCRs) into Ministry of Health (MOH) hospitals and physicians' offices is attracted the attention of every one in contact with this field. MOH hospitals' physicians represent the primary target group for pharmaceutical companies. Most MOH hospitals and physicians allow free and unrestricted access to PCRs. Low income and income dissatisfaction may encourage physicians to engage more in marketing practices especially at the absence of effective formal regulations and ethical codes govern such interaction (Balawi, 2013; Masroujah, 2014; Mehadi, 2014).

All these insights make this topic hot, more interesting and important to explore the two main dimensions of interactions between MOH hospitals' physicians and pharmaceutical companies in the Gaza Strip. Here comes the main question of this study:

What are the exposure and the attitudes of MOH hospitals' physicians toward the marketing practices of pharmaceutical companies in the Gaza Strip?

Abroad, much has been written about the interaction of healthcare professionals with pharmaceutical companies (Shankar, et al., 2008), but to the researcher's best knowledge, this study will be the first one to discuss the topic of the exposure and attitudes of physicians toward marketing practices of pharmaceutical companies in the Gaza Strip. This study will fill the gaps related to such interaction in the Gaza Strip, in aim to establish mutually beneficial relationship in favour of patients.

1.3 Justification of the Study

This study tries to draw a clear picture about the exposure and attitude of MOH hospitals' physicians toward the marketing practices of pharmaceutical companies; therefore, it may help all the players in the pharmaceutical market.

Physicians will be more aware and cautious about the practices used by pharmaceutical companies and in what ways they are vulnerable to the influence of these marketing practices on their prescribing behaviour. Also, they will be able to know how to benefit from these practices to improve their practices of medicine for the benefits of their patients.

Pharmaceutical companies will be able to understand the real exposure and attitudes of physicians toward different marketing practices. Moreover, how to utilize these practices properly and efficiently. Also they will understand the differences in the exposure and attitudes toward these practices due to physicians' characteristics in order to tailor these practices to fit physicians' needs.

The policy makers at MOH and professional associations will be able to identify the exposure and attitudes of physicians to the marketing practices, in order to develop and implement effective formal regulations and ethical codes that govern this interaction in favour of patients, medicine profession and society.

1.4 Objectives of the Study

The following illustrates the study objectives and explain the practical importance of the research.

1.4.1 General Objective

To identify the exposure and the attitudes of MOH Hospitals' physicians toward the marketing practices of pharmaceutical companies in the Gaza Strip, in order to establish mutually beneficial relationships between physicians and pharmaceutical companies in favour of patients and society at large.

1.4.2 Specific Objectives

1. To estimate the exposure of MOH hospitals' physicians to the marketing practices of pharmaceutical companies.
2. To explore the attitudes of MOH hospitals' physicians toward the marketing practices of pharmaceutical companies.
3. To identify the main differences among MOH hospitals' physicians in their exposure to the marketing practices of pharmaceutical companies due to physicians' characteristics.
4. To identify the main differences among MOH hospitals' physicians in their attitude toward the marketing practices of pharmaceutical companies due to physicians' characteristics.
5. To determine the association between the exposure and the attitude of MOH hospitals' physicians toward the marketing practices.
6. To explore the willingness of MOH hospitals' physicians to the participation in marketing practices and determine its association with their attitude.
7. To explore perception of MOH hospitals' physicians about the influence of marketing practices on their prescribing behaviours and determine its correlation with their attitude.
8. To explore the preparedness of MOH hospitals' physicians to the regulation of the marketing practices and determine its association with their attitude.
9. To develop recommendations that might help physicians, pharmaceutical companies, and policy makers in MOH and professional associations to establish mutually beneficial relationship in favour of patients and society at large.

1.5 Research Questions

1.5.1 Main Question

What are the exposure and the attitudes of MOH hospitals' physicians toward the marketing practices of pharmaceutical companies in the Gaza Strip?

1.5.2 Sub-Questions

1. What is the exposure of MOH hospitals' physicians to the marketing practices of pharmaceutical companies?
2. What is the exposure of MOH hospitals' physicians to the marketing practices by pharmaceutical companies' types?
3. What is the attitude of MOH hospitals' physicians toward the marketing practices of the pharmaceutical companies?
4. What is the attitude of MOH hospitals' physicians toward the information provided through marketing practices?
5. What is the attitude of MOH hospitals' physicians toward the marketing practices by pharmaceutical companies' types?

6. How are MOH hospitals' physicians willing to participate in the marketing practices of pharmaceutical companies?
7. How do MOH hospitals' physicians perceive the influence of the marketing practices of pharmaceutical companies on their prescribing behaviours?
8. How are MOH hospitals' physicians prepared to the regulation of the marketing practices of pharmaceutical companies?

1.6 Research Hypotheses

1. There are significant differences among MOH hospitals' physicians in their exposure to the marketing practices of pharmaceutical companies due to physicians' characteristics (personal, professional and practice setting) at $\alpha \leq 0.05$.
2. There are significant differences among MOH hospitals' physicians in their attitudes toward the marketing practices of pharmaceutical companies due to physicians' characteristics (personal, professional and practice setting) at $\alpha \leq 0.05$.
3. There is a significant correlation between the exposure and the attitude of MOH hospitals' physicians toward the marketing practices of pharmaceutical companies at $\alpha \leq 0.05$.
4. There is a significant correlation between the attitude of MOH hospitals' physicians and their willingness to the participation in the marketing practices of pharmaceutical companies at $\alpha \leq 0.05$.
5. There is a significant correlation between the attitude of MOH hospitals' physicians and their perception about the influence of marketing practice of pharmaceutical companies on their prescribing behaviour at $\alpha \leq 0.05$.
6. There is a significant correlation between the attitude of MOH hospitals' physicians and their preparedness to the regulation of the marketing practices of pharmaceutical companies at $\alpha \leq 0.05$.

1.7 Study Variables and Conceptual Framework

1.7.1 Study Variables

1.7.1.1 Dependent Variables

There are two dependent variables

1- **The Exposure** of MOH hospitals' physicians to the marketing practices of pharmaceutical companies.
2- **The Attitude** of MOH hospitals' physicians toward the marketing practices of pharmaceutical companies.

1.7.1.2 Independent Variables

I-There are two categories of the independent variables which include

1- Physicians' Characteristics

- **Personal Characteristics**

  - Gender.
  - Age.
  - Average monthly income.
  - Income satisfaction.

- **Professional Characteristics**

  - Graduation country of Bachelors.
  - Years of practicing medicine in Gaza.
  - Educational degree.
  - Job rank.
  - Specialty.
  - Holding a managerial position.
  - Participating in scientific/drug/referral committees.

- **Practical settings Characteristics**

  - Hospital works at.
  - Department works at.
  - Having a private clinic.
  - Location of the private clinic.
  - Working at Non-Governmental Organizations (NGOs).
  - Average number of patients treated by physician per day.
  - Average number of prescriptions prescribed by physicians per day.

2- The pharmaceutical companies' types

- Foreign companies.
- Local companies.
- Israeli companies.
- Egyptian companies.
- Drug wholesalers.

II- There are three variables related to the attitude which include

1- The willingness of MOH hospitals' physicians to the participation in the marketing practices of pharmaceutical companies.
2- The perception of MOH hospitals' physicians about the influence of the marketing practices of pharmaceutical companies on their prescribing behaviour.

3- The preparedness of MOH hospitals' physicians to the regulation of the marketing practices of pharmaceutical companies.

1.7.2 Conceptual Framework

In this part of the chapter, the researcher depicts the ideas extracted from different, relevant, previous studies including different factors and concepts, and incorporates them into a conceptual framework. Attention is paid to keep these factors and concepts open and flexible to accommodate the diversity of the pharmaceutical marketing in the Gaza strip situation. Conceptual models attempt at organizing and donating a symbolic representation of conceptualization of phenomena with the minimal use of words. Framework is the conceptual underpinning of a study and used to guide and direct the research process and to make research findings more meaningful and generalizable. Additionally, frameworks are efficient mechanisms for drawing together and summarizing accumulating facts as shown in the following figure of the conceptual framework of this study (Burns & Grove, 1997).

Figure (1.7-1): Conceptualized Framework – Developed by Researcher according to Literature Review outlines the conceptual framework of this study. This framework and was developed by the researcher based on several sources of literature which are summarized in Table (1.7-1).

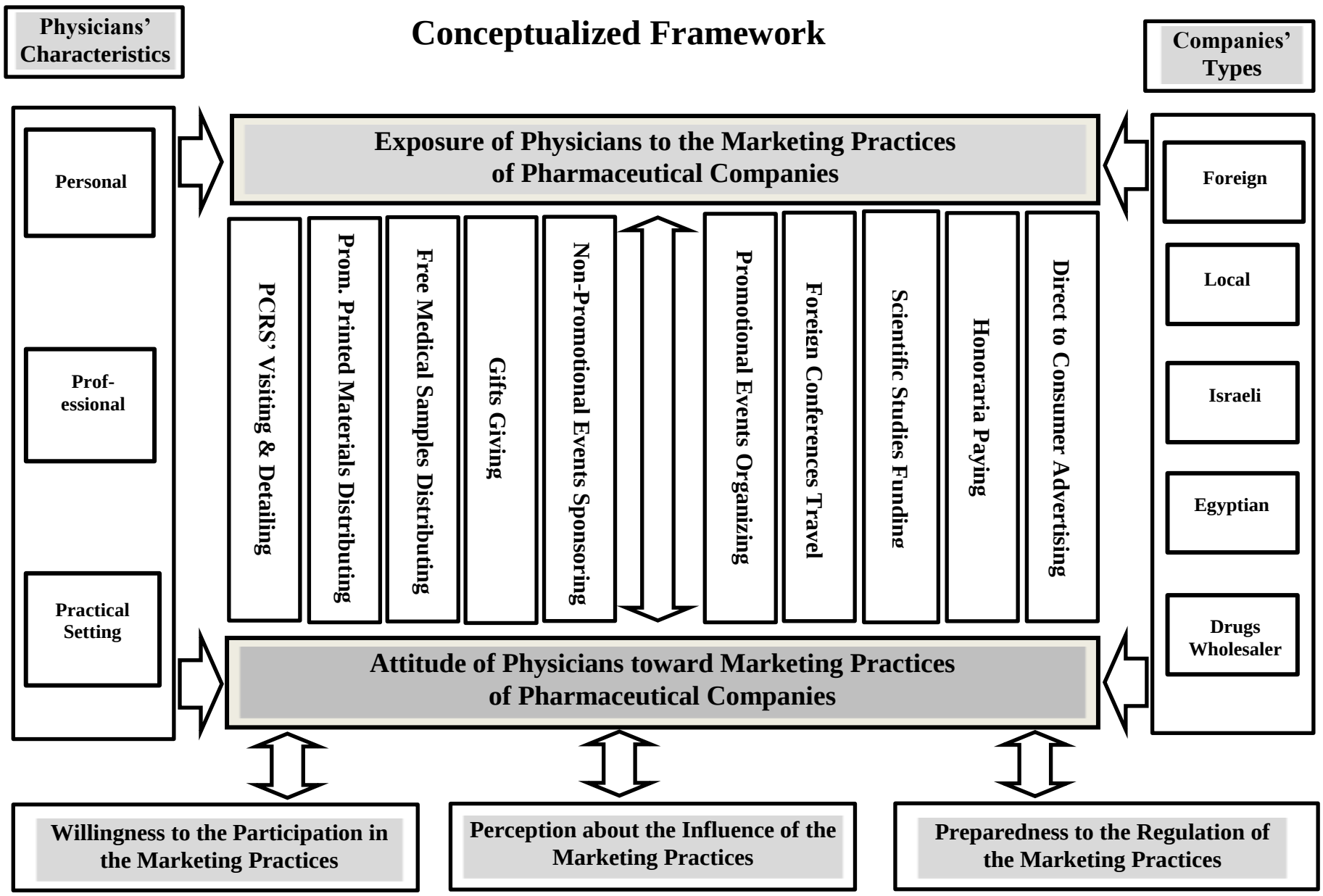

Figure (1.7-1): Conceptualized Framework – Developed by Researcher according to Literature Review
See Table (1.7-1): Summary of Conceptual Framework Sources

As illustrated in Figure (1.7-1), the pharmaceutical companies use different marketing practices to promote their drugs. These practices include PCR's visiting and detailing, promotional printed materials distributing, free medical samples distributing, gifts giving, non-promotional events sponsoring such as local scientific conferences and Continuing Medical Education (CME) lectures, promotional events organizing such as drug's presentations at group meetings and round table discussions, drug's launches and symposia, foreign conferences travel sponsoring, scientific studies funding such as clinical trials and Post Marketing Surveillances (PMS) studies and honoraria paying for consulting or speaking or other service provided by physicians to the pharmaceutical company, in addition, to a different approach that directly targets patients by Direct To Consumer (DTC) advertising thought public media (WHO, 1988).

The interaction between physicians and pharmaceutical companies, in a particular healthcare setting includes two key dimensions, which are under the scope of this study:

- *The Exposure of physicians to the marketing practices of pharmaceutical companies.*
- *The Attitudes of physicians toward the marketing practices of pharmaceutical companies.*

There are many variables depicted from the literature which relate to the exposure and the attitude of physicians toward the marketing practices of pharmaceutical companies, and they can be divided into two main categories:

The first category is the physicians' characteristics which include *main three subcategories*:

1. *Personal characteristics*; there are many studies explore the differences in the exposure and the attitudes of physicians toward the marketing practices due to physicians' personal characteristics such as gender, age, average monthly income and income satisfaction.
2. *Professional characteristics*; there are many studies explore the differences in the exposure and the attitudes of physicians toward marketing practices due to physicians' professional characteristics such as graduation country of Bachelors, years of practicing medicine in Gaza, educational degree, job rank, specialty, holding a managerial position, and participating in scientific/drug/ referral committees.
3. *Practice setting characteristics*; there are many studies explore the differences in the exposure and the attitudes of physicians toward marketing practices due to physicians' practice setting characteristics such as hospital and department the they work at, having a private clinic, location of the private clinic, working at NGOs, the average number of patients treated by the physician per day and average number of prescriptions prescribed by the physician per day. These factors represent major

contributing factors as literature shows; therefore the researcher separated these factors in isolated subcategory.

The second category is the pharmaceutical companies' types, which can be classified into five types, Foreign (Multinational) companies, local (National) companies, Israeli companies, Egyptian companies and drug wholesalers. Siddiqi, et al. (2011) studied this variable and found no differences in the attitudes of physicians between local or multinational companies, but the researcher adopted this category because there are apparent discrepancies among the pharmaceutical companies' types regarding their used marketing practices in the Gaza Strip (Shurrab, 2014), which in turn may affect the exposure and the attitudes of physicians toward these practices.

As shown in Figure (7.1-1), the literature suggests that there *are three concepts* relate to the attitudes of physicians toward the marketing practices of the pharmaceutical companies, which are:

1. *The willingness of physicians* to the participation in the marketing practices of pharmaceutical companies. It is important to find how physicians are willing participate in the marketing practices and how this willing is associated to the attitude; as it reflect the physicians' behaviour in the future.
2. *The perceptions of the physicians* about the influence of the marketing practices of pharmaceutical companies on their prescribing behaviour. The ultimate goal of all marketing practices of the pharmaceutical companies is to encourage physicians to prescribe their products more; therefore, it is important to know how physicians perceive the influence of these practices on their prescribing behaviours and how this perception is associated with their attitude.
3. *The preparedness of physicians* to the regulation of the marketing practices of pharmaceutical companies. The regulations and ethics that govern the interaction between physicians and pharmaceutical companies are key factors that may affect the attitudes of physicians toward marketing practices.

Table (1.7-1): Summary of Conceptual Framework Sources shows the different sources of the study variables including physicians' characteristics, pharmaceutical companies' types, willingness to the participation in marketing practices, perception about the influence of marketing practices on prescribing behaviour and preparedness to the regulation of marketing practices.

Table (1.7-1): Summary of Conceptual Framework Sources

Independent Variable		Sources
1	Physicians' Characteristics	(Al-Areefi, et al., 2013), (Alosaimi, et al., 2013a), (Alosaimi, et al., 2013b), (Alssageer and Kowalski, 2012), (Anderson, et al., 2009), (Ashar, et al., 2004), (Birkhahn, et al., 2010), (Campbell, et al., 2007), (Hamdi, et al., 2013), (Hamdi, et al., 2012), (Hassali, et al., 2007), (Ijom, et al., 2010), (Korenstein, et al., 2010), (Morgan, et al., 2006), (Lea, et al., 2010), (Saito, et al., 2010), (Reast and Carson, 2000), (Sharma, et al., 2010), (Siddiqi, et al., 2011), (Zaki,2014).
2	Companies Types	(Siddiqi, et al., 2011), (Hassali, et al., 2007).
3	Willingness to the Participation in Marketing Practices	(Alosaimi, et al., 2013a), (Campbell, et al., 2007), (Ijom, et al., 2010), (Misra, et al., 2010), (Wazana, 2000).
4	Perception about the influence of Marketing Practice	(Al-Areefi, et al., 2013), (Alssageer and Kowalski, 2012), (Chimonas, 2007), (Grande, et al., 2009), (Ijom, et al., 2010), (Lieb and Brandtonies, 2010), (Morgan, et al., 2006), (Randall et al., 2005), (Sharma, et al., 2010), (Vancelik, et al., 2007), (Wazana, 2000), (Zipkin and Steinman, 2005).
5	Preparedness to the regulation of Marketing Practices	(Alssageer and Kowalski, 2013), (Balharam, et al., 2012), (Korenstein, et al., 2010), (Lieb and Brandtonies, 2010), (Misra, et al., 2010), (Morgan, et al., 2006), (Pinto, et al., 2007), (Sharma, et al., 2010).

1.8 Significance of the Study

This study is unique in several ways:

1- As the researcher knows, this study is the first one to be conducted in Palestine, regarding the exposure and the attitudes of physicians toward marketing practices.
2- The study is one of the few studies which explore the exposure and attitudes in comprehensive way for all marketing practices, while most of previous studies seek to explore the exposure and the attitudes toward one or two of these practices.
3- The study will be one of few studies which seek to explore three different concepts of willingness, perceptions and preparedness and assess their associations with the attitude.
4- This study uses proportional stratified randomized sample, which makes study's finding subjected to generalization, while most of previous studies used convenient and non-proportional samples.
5- This study is the first one, to the best knowledge of the researcher, which weights the marketing practices to assess the differences in the exposure in more accurate and real manner.
6- The findings and the recommendations of this study will be developed into a framework which will help all the players in the marketing practices field to govern the interaction between physicians and pharmaceutical companies for patients' benefit.

1.9 Scope and limitations of the Study

1.9.1 Scope of the Study

The researcher will study the exposure and the attitudes of physicians who are working at any MOH hospitals in the five governorates of the Gaza Strip, during the time of data collection from March to June 2014.

1.9.2 Limitation of the Study

1- The limited scientific resources and statistic information about the pharmaceutical marketing in the Gaza Strip.
2- The study is cross sectional while the exposure and the attitudes may differ by time and circumstances.
3- The study includes a sample of physicians from MOH hospitals only while, there are physicians in other healthcare centers who may be exposed to the marketing practices of pharmaceutical companies.
4- The study includes a sample of physicians while, there are other healthcare professionals who may be exposed to the marketing practices of pharmaceutical companies.
5- The study uses a self-administered questionnaire as tool for data collection. While, self-reporting is one of the most common methods to determine attitudes, it is infallible, as it assumes that each subject is highly self-aware and honest, which may not always be the case.
6- The study uses the quantitative approach of a Likert scale to assess the attitude but, to get more deep understanding of perspectives and attitudes, qualitative approaches may be needed.

1.10 Context of the Study

The study was conducted in the Gaza Strip; therefore, demographic, economic and political situations may affect the pharmaceutical marketing, the exposure and the attitudes toward the marketing practices of pharmaceutical companies. In addition, the pharmaceutical market, as any market, is influenced by these factors.

For example, demographic reports of United Nations Development Program (UNDP) in 2012 indicated that the Gaza Strip is one of the most densely populated places on earth, 66% of the population is refugees and the population is young as 51% of the population is below 18 years (PCBS, 2012). These demographic facts and others may create a desperate situation in terms of education, employment, slowing production growth and increasing the prevalence of poverty; therefore, increase the pressure on healthcare system which in turn will ultimately affect the pharmaceutical market and the marketing practices of pharmaceutical companies.

In addition, Palestinian economy is dependent on Israel as it controls the movement of goods and labor and retains customs revenues. Palestine remains heavily dependent on foreign aids to support the government's budget and fund infrastructure development (PCBS, 2012). The development process faces the primary challenge of closure and sanctions. Internal political division between the two main political parties "Fateh and Hamas" has affected the economic aspects of Palestine (Fetini, 2009). The effect of these economic factors and others extend to all markets including pharmaceutical market.

Moreover, political status of Palestine is highly complex. Israel maintains effective control over entry and exit into Gaza, its air space and sea, it also controls trade, the commercial market, water, and the main sources of energy, the means of communications and security, and pharmaceutical products (EMO, 2013). At the height of Israel's blockade against Gaza, Palestinians in the Gaza Strip relied on a vast network of tunnels from Egypt. The tunnels between Gaza and Egypt are used to smuggle essential commodities into the besieged Strip, including food, medicines, fuel, construction materials and myriad other products (MEPC, 2013). Medicines are one of the major goods which are a hugely influx to the Gaza Strip via tunnels; one report said is that the Gaza Strip markets sink by smuggled goods via tunnels (Ganam, 2010). This situation has been further aggravated by strife between the Fatah led Palestinian Authority in the West Bank and the Hamas government in the Gaza Strip (Hammoudeh & Dennis, 2014). Surely, these political factors and others affect the pharmaceutical market and practices.

It is not possible to address these demographic, economic and political contexts in this study, but to better understand the pharmaceutical marketing, the exposure, and the attitudes of physicians toward marketing practices of pharmaceutical companies in the Gaza Strip, the researcher provided some helpful background information about healthcare sector in Palestine, more specifically in the Gaza Strip, pharmaceutical market, local pharmaceutical industry, pharmaceutical marketing and regulations.

1.10.1 Healthcare Sector

Among the relevant contextual characteristics that may affect pharmaceutical market and physicians' exposure and attitudes, the researcher is interested to present, is some information about the healthcare sector of Palestine.

In Palestine, the total expenditure on health reached USD 1,201 million in 2011 compared to USD 1,074.7 million in 2010. The percentage of total health expenditure to Gross Domestic Product (GDP) is 12.3% in 2011 and total health expenditure per capita reached USD 307 in 2011(PCBS, 2013).

There are around 50,000 workers in the health sector, 23,888 out of them are in MOH, 3,079 are physicians, 2,117 are dentists, 5,282 are pharmacists, 7485 are nurses, 677 are midwives and 7520 are administrative staff. According to PCBS (2014), the numbers of physicians who are registered at the physicians syndicate in the West Bank were 2,941

representing 0.8 doctors for every 1000 people. On the other hand, the numbers of the registered physicians at the physicians syndicate in the Gaza Strip in 2007 were 3,452 representing 2.4 doctors for every 1000 people. There are 801 licensed pharmacies in the West Bank (PPS, 2014a). On the other hands there are 2,356 licensed pharmacists in the Gaza Strip (PPS, 2014b), 234 of them work in the public sector (PHIC, 2013). The number of pharmacists and pharmacist's assistants are more than adequate (OECD, 2012).

According to Palestinian Non-Governmental Organization Network (PNGO) and in comparing to other countries at same level of economic development, the Palestinian population's overall health status outcome are relatively good due to the strong performance on the most basic public health and Primary Health Care (PHC) functions (PNGO, 2009). Generally speaking, healthcare services are effective when comparing health outcomes in the Gaza Strip to those in the region. Most basic services are satisfactory in terms of coverage and physic accessibility while the quality of the care is questionable due to the lack of appropriate standard and weak implementation of the already available standards. Also, access to the advanced tertiary services remains a real challenge to the health care system in the Gaza Strip (MOH, 2014).

The five main health providers of health services in Palestine are MOH, United Nations Relief and Works Agency (UNRWA), NGOs Military Medical Services (MMS) and private sector for profit. MOH primary healthcare centers provide services to individuals who subscribe to the government health insurance scheme. All services are provided free of charge at governmental clinics. UNRWA clinics provide free primary healthcare to registered refugees, while NGO clinics provide healthcare at subsidized rates or cost. Private clinics provide services for fees paid either by private insurance or by the patient and are relatively more expensive than the other categories, United States Agency for International Development (USAID) in 2013.

In Palestine, MOH bears the heaviest burden, as more than 50% of services are provided by government. The MOH is responsible for a significant portion of PHC, secondary care and some tertiary care, where the MOH purchases tertiary services from other health providers both locally and abroad. There are 79 hospitals in Palestine; 49 in the West Bank and 30 in the Gaza Strip, with total number of 5,487 beds in government and non-government hospitals. There are 13 beds per 10,000 of populations; 12 beds in the West Bank and 14 beds in the Gaza Strip (MOH, 2014a).

The pharmaceutical services in MOH are very important sector as it forms a very high proportion of the MOH expenditure. The annual average of drugs budget at MOH is about USD 40 million for essential drug list, in addition to USD 6 million for drugs out of essential drug list, requested by specialists for serious diseases as Cancer, Hepatitis and blood diseases. This could be explained by the strong demand of patients. Other important perceived causes also include the irrational prescribing practices, over-prescribing and the tendency of the physicians to prescribe very expensive brand name drugs (Obeidallah, 2000). Irrational drug use is a key contribution factors. For example, Fattouh and Abu Hamad (2010) show that 51.2 % of respondents from PHC physicians faced many

problems in using EDL. Abu Saman (2010) recommended that interventions are needed to increase patients' and physicians' knowledge about economic and health adverse effect of irrational drug use.

In the Gaza Strip, health facilities face serious shortage of drugs and medical supplies resulting from the on-going Israeli embargo, financial crisis facing the Palestinian authority and pronounced lack of cooperation between the Palestinian Authority in the West Bank and the authorities in Gaza. In June 2012, Gaza central drug pharmacy stores in the MOH reported that 42% of essential medications are at zero stock, with an additional 13% at low level sufficient for less than 3 months (MOH, 2012b). Due to this drugs shortage health facilities were no longer able to supply patients with drugs for severe debilitating chronic diseases such as multiple sclerosis, or first line antibiotic at PHC clinics. At hospital level, shortage has affected oncology surgeries, and dialysis. Due to chronic drug and disposables shortages, patients now frequently purchase many medications from private pharmacies and seek donation from charities. Many donations were received to cover the shortage, but donations can sometimes represent unexpected problems, because of transport delays and large proportion of expired or about to be expired drugs (MOH, 2014).

Thus, the researcher assumes that the above-mentioned factors may affect the current healthcare system, pharmaceutical industry, pharmaceutical marketing and subsequently physicians' exposure and attitudes.

1.10.2 Pharmaceutical Market in Palestine

Generally, there are very limited data on the pharmaceutical market in Palestine and more specifically in the Gaza Strip. Some data show that the total pharmaceutical market size in Palestine is estimated at about USD 48 million in 2008, the major consumers are the private sector 71%, public sector 20%, and 9% for NGOs including UNRWA, and the anti-infective are the leading consumed medicines in Palestine (USAID, 2009).

This estimation was below the estimation of the Union of Palestinian Pharmaceutical Manufacturers (UPPM) who estimated that total public expenditure on pharmaceuticals is NIS 193.8 million (USD 54.1 million), total private expenditure on pharmaceuticals is NIS 358 million (USD 100 million) in 2010. The annual growth rate of total pharmaceutical market value is 7 % (UPPM, 2010). The data of UPPM are more realistic as MOH report shows that Pharmaceutical expenditures is USD 37 million in 2009 with an estimated 29 % increase consequently (MOH, 2013). MOH reported that it reaches to NIS 152.7 million (USD 42.5 million) in 2013 as the latest report in June 2014 (MOH, 2014b)

In 2010, there were 2,440 pharmaceutical products registered in Palestine (MOH, 2011).There are 480 drugs on the updated essential drug lists (MOH, 2012b). The General Directorate of Pharmacy in MOH shows that recently there are 6,881 pharmaceutical

products registered in Palestine with 556 drugs on the updated essential drug lists (MOH, 2014c).

Pharmaceutical companies in Gaza market can be categorized into five categories: foreign companies, local companies, Egyptian, Israeli companies and drug wholesalers. Other terms used in the Gaza Strip for foreign companies are multinational companies and for local companies are national or Arab companies. The available data from Pharmacists Syndicate in the Gaza Strip show that there are 68 licensed pharmaceutical companies and drug wholesalers working in the Gaza Strip market (PPS, 2014b), but the facts from market confirm that the actual number is highly exceeding this number because of tens of unlicensed drug wholesalers work illegally in the Gaza Strip, and many of them distribute and promote illegal unlicensed drugs which come via tunnels in unsuitable conditions for transportation and storage (Shurrab, 2014).

In 2010, the local manufacturers covered 59% of the market needs, foreign medicines (excluding Israel), which covers around 22% of the local market; while the Israeli medicines' share of the market is 19%. Foreign companies are the main competitors to the Palestinian local medicines. All Israeli and international medicines enter the local market through local suppliers and agents. About 11% of all medicines in the market are patented internationally (USAID, 2013). Generics represent 70 % of the pharmaceutical market (UPPM, 2010).

1.10.3 Local Pharmaceutical Industry

Regarding the local manufacturing companies, there is a nascent pharmaceutical industry that had developed. Data available about the local pharmaceutical industry in Palestine show that it is comprised of six manufacturers: Quds Pharmaceuticals (Jepharm), Birzeit Pharmaceuticals (BPC), Beit Jala Pharmaceuticals, Pharmacare Pharmaceuticals, Gama Pharmaceuticals, and Megapharm Pharmaceuticals. All of these pharmaceutical manufacturers, have capability to producing of formulations from pharmaceutical starting materials and repackaging of finished dosage forms but have no capabilities to producing of pharmaceutical starting materials and to discovering new active substances (MOH, 2011).

This local pharmaceutical industry contributes to less than 1% of GDP, but it is considered one of the highest productivity (USAID, 2009). The Pharmaceutical Industry in Palestine could be considered as a unique industry if compared with other sectors in terms of its innovation and development. The Palestinian pharmaceutical manufacturers are Good Manufacturing Practices compliant and are ISO 9000 and ISO 14000 certified. The total number of workers is estimated at 1200 workers (MOH, 2011). The industry covers over 50% of Palestinian pharmaceuticals needs and exports to over fifteen Arab, African and European countries.

Most locally produced pharmaceuticals are generic and may not have a significant effect upon satisfy the market in terms of disease and sickness relief, but these generic products are more affordable than the higher-priced imported products (UPPM, 2010). Therefore Palestinian drug prices are more competitive than its Israeli and foreign counterparts, bonuses on Palestinian medicines surpass other rivals (USAID, 2009).

In 1996, the six pharmaceutical manufactures decided to institutionalize the pharmaceutical sector by establishing the Union of Palestinian Pharmaceutical Manufacturers (UPPM), as a body to embrace all Palestinian pharmaceutical companies and to promote the national image of Palestinian pharmaceutical products as top-quality products (Abualia, 2010). Although numerous challenges face the industry today, the UPPM is committed to working diligently to overcome them. The following priorities have been identified: finding ways to protect Palestinian patients from counterfeit drugs that are smuggled into Palestine through Israeli borders and ports, guaranteeing the quality of 2,000 traded, ensuring that the MOH registration process is adhered to and finding ways to increase competition due to the influx of imports from India and China (Abualia, 2010).

A local production form national pharmaceutical company is relatively unfocused, with manufacturers tending to produce homogeneous product lines. This has created strong inter-industry competition and has weakened the sector in its attempt to develop and improve into a distinctive sector that invests in real research and development and benefits from economies of scale. The industry needs to invest a lot in quality matters and certification. Local manufacturers cover only around one third of the Palestinian Essential Drug List. So efforts continue toward producing more drugs. Bridging the gap between the Pharmaceutical Industry and Universities is an essential requirement for development. Costing Systems, financial and management information systems are also needed. Market studies and registration of medicines are particularly needed (USAID, 2009). These requirements represent the visa to enter international markets.

1.10.4 Pharmaceutical Regulations in Palestine

In Palestine, a National Health Policy exists, it was updated in 2011 and an associated National Health Policy implementation plan exists also (MOH, 2011). The national pharmaceutical policy was completed and adopted in Dec 2012 and has become an integral part of national health policy with different components. Pharmaceutical policy implementation is not regularly monitored/ assessed (MOH, 2013). There is no national good governance policy in Palestine and a policy is not in place to manage and sanction conflict of interest issues in pharmaceutical affairs (MOH, 2011). **Table (1.10-1): National Health Policy-Policies Addressing Pharmaceuticals** summarizes the policies of national health which exist to regulate the pharmaceutical sector.

Table (1.10-1): National Health Policy - Policies Addressing Pharmaceuticals

No.	Aspect of Policy	Covered
1	Selection of Essential Medicines	Yes
2	Medicines Financing	Yes
3	Medicines Pricing	Yes
4	Medicines Procurement	Yes
5	Medicines Distribution	Yes
6	Medicines Regulation	Yes
7	Pharmacovigilance	No
8	Rational use of Medicines	Yes
9	Human Resource Development	No
10	Research	No
11	Monitoring and Evaluation	No
12	Traditional Medicine	No

In Palestine, there are legal provisions establishing the powers and responsibilities of the Medicines Regulatory Authority (MRA). An assessment of the medicines regulatory system has been conducted in the last few years (MOH, 2011). **Table (1.10-2): Functions of National Medicines Regulatory Authority** summarizes the function of the MRA.

Table (1.10-2): Functions of National Medicines Regulatory Authority

No.	Function	Covered
1	Marketing Authorization / Registration	Yes
2	Inspection	Yes
3	Import Control	Yes
4	Licensing	Yes
5	Market Control	Yes
6	Quality Control	Yes
7	Medicines Advertising and Promotion	Yes
8	Clinical Trials Control	Yes
9	Pharmacovigilance	No

There are three articles (Number 86, 87, 88) in Pharmacy Practicing Law regarding the regulation of pharmaceutical marketing (Pharmacy Practicing Law, 2004). Balawi (2013) indicated that the formal document which controls the marketing practice is the Drug Promotion System and there are no effective formal regulations or ethical codes implemented to govern the interaction between physicians and pharmaceutical companies and to regulate the marketing practices of pharmaceutical companies in the Gaza Strip.

1.11 Operational Definitions of Terms

Exposure: is the contacts or meetings between physicians and PCRs, and the involvement of physicians in various marketing practices, so it involves more than just face- to- face visits with PCRs (Wazana, 2000).

Attitude: It is a mental or neural state of readiness, organized through experience, exerting a directive or dynamic influence on the individual's response to all objects and situations to which it is related (Allport, 1935).

Pharmaceutical Marketing Practices: They are all informational and persuasive activities by manufacturers, the effect of which is to induce the prescription, supply, purchase and/or use of medicinal drugs (WHO, 1988).

Pharmaceutical Company Representative (PCR): He/she is a drug company employee who regularly visits physicians to provide information on the company's products in an attempt to influence their prescribing behaviour in favour of the company's products (Alssageer & Kowalsk, 2012).

***Detailing*:** It is marketing practice used by PCRs to educate physicians about the vendor's products in an attempt to influence physicians' prescribing behaviour (Green, et al., 2012).

Promotional Printed Materials Distributing: It is a marketing practice used by pharmaceutical companies to educate physicians about their products through distributing many drug-specific printed educational materials, in an attempt to influence physicians' prescribing behaviour (Khoaanh, 2011).

Free Medical Samples Distributing: It is an important and commonly used pharmaceutical marketing practice, represented by giving away free drug a package containing a limited quantity of a pharmaceutical product, distributed to licensed healthcare practitioners free of charge, for patient treatment (R&D, 2010).

Gift Giving: It is a marketing practice adopted by the pharmaceutical companies, which includes the distributing of gifts, range from trinkets gifts to lavish gifts (Pinto, et al., 2007).

Non Promotional Event Sponsoring: It is a marketing practice adopted by pharmaceutical companies to sponsor educational meeting such as local scientific conferences and Continuing Medical Education (Lazarus, 2006).

Continuing Medical Education (CME)*:* It is an educational activity that serves to maintain, develop, or increase the knowledge, skills, and professional performance that a physician uses to provide services for patients, the public, or the profession (Stanford Center, 2012).

Promotional Events Organizing*:* It is a marketing practice adopted by the pharmaceutical companies to organize educational events, aimed to promote and advance the use of the company's marketed drug (Gupta, 2006).

Foreign Conferences Travel Sponsoring: It is an effective practice that used by pharmaceutical companies to sponsor physicians' foreign trip to attending regional or international conferences or symposia (Karperien, et al., 2007)

Symposia: It is a conference or meeting to discuss a particular subject used by pharmaceutical companies to focusing on one promoted drug (Oxford Dictionary, 2007)

Clinical Studies Funding: It is a marketing practice that is used by pharmaceutical companies, especially international ones, through funding of scientific studies such as clinical trials and PMS (Anis & Gagnon, 2000).

Post Marketing Surveillance (PMS): It is a scientific study implemented after a drug has been licensed for public use, designed to provide information on the use and the occurrence of side effects (Aert, 2010).

Clinical trial: It is a trial to evaluate the effectiveness and safety of medications or medical devices by monitoring their effects on large groups of people (Aert, 2010).

Honoraria Paying: It is a marketing practice used by pharmaceutical companies included a direct payment from pharmaceutical company to physicians, usually opinion leaders, for services such as consulting, advisory board and speaking (Jibson, 2007).

Direct-To-Consumer (DTC) Advertising*:* It is the promotion of drugs through public media, this form of advertising is used by pharmaceutical companies and directed toward patients, rather than physicians (Auton, 2004).

Willingness to the Participation: It refers to the quality or a state of how the physicians being happy to participate in pharmaceutical marketing practices (Oxford Dictionary, 2007).

Perception about the Influence: It refers to ability of physicians to interpret and organize the influence of pharmaceuticals marketing practices on their prescribing behaviour and drugs choice (Lindsay & Norman, 1977).

Preparedness to the Regulation: It refers to a state of physicians to be prepared for implementing of formal regulations and ethical codes which govern the interaction between physicians and pharmaceutical companies (Oxford Dictionary, 2014).

Prescribing Behaviour: It refers to the adoption process that a physician go through when accepting new drug which includes: new drug awareness, gathering information about the drug, developing positive attitudes toward the drug, testing it in some direct or indirect way, finding satisfaction in the trials and adopting the drug into a standing usage or repurchase pattern (AMA, 2013).

Chapter Two: Literature Review

CHAPTER OUTLINE

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2.11 Preparedness to the Regulation of the Marketing Practices

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2.1 Introduction

In this chapter, the researcher presents the literature review regarding the exposure and attitudes of physicians toward the marketing practices of pharmaceutical companies and the factors and concepts which may affect them. These factors include physicians' characteristics, pharmaceutical companies' types, the willingness of physicians to the participation in the marketing practices, the perceptions of the physicians about the influences of the marketing practices on their prescribing behaviour and the preparedness of physicians to the regulation of the marketing practices.

2.2 Pharmaceutical Industry

2.2.1. Pharmaceutical Industry Definition

The pharmaceutical industry is the industry which develops, produces, and markets products classified as "drugs or pharmaceuticals" which are licensed for use as medications (John et al., 2007). The pharmaceutical industry is a prime example of a life science industry. It has two main characteristics differentiating it from other industries; first it is highly regulated as it deals with people's health and the second it is a science-based industry (Kappe, 2011).

There are two major classes of pharmaceutical products: Prescription Only Medicines (POMs) and Over the Counter Drugs (OTCs). POM is medicine regulated by legislation, and requires a prescription from a healthcare professional to purchase. On the contrary, OTC drug is medicine directly sold to patients and not requiring a prescription from healthcare professional, i.e. physician (BMA, 2006). Prescription only medicines (POM) and over the counter drugs (OTC) became legally distinguished from one another (Mansfield, 2005).

2.2.2 Pharmaceutical Industry Importance

Historically, the first known drugstore was opened by Arabian pharmacists in Baghdad in 754, and many more soon began operating throughout the medieval Islamic world and eventually medieval Europe. By the 19th century, many of the drugstores in Europe and North America had eventually developed into larger pharmaceutical companies. Most of today's major pharmaceutical companies were founded in the late 19th and early 20th centuries. Switzerland, Germany and Italy had particularly strong industries, with the United Kingdom, the United States, Belgium and the Netherlands following suit (Hadzović, 2007). Actually one can say that pharmaceutical industry became concentrated with a few large companies holding a dominant position throughout the world and with a few companies producing medicines within each country. According to the Statistical, Economic and Social Research for Islamic Countries (SESRIC), in the Arab world, the pharmaceutical industry with more than 250 pharmaceutical manufacturing firms, is

relatively small. This industry comprises around 0.7 percent of the world's pharmaceutical industry in 2011.

The pharmaceutical industry is an important industry worldwide, where it has a direct impact on the welfare of patients in specific and the society in general (Manchanda & Honka, 2005). The pharmaceutical industry has contributed more to the well-being of humanity than any other has, it has helped to remove tuberculosis, gastroenteritis, and diphtheria from among the 10 leading causes of death in the western world. Also, achieved a mile stone- by playing basic role in removal of small pox, plague and polio, the main causes of death and disability especially in the developing countries few decades back (Braithwaite, 2006). The pharmaceutical industry also, recognizes its role in combating non-communicable disease worldwide with appropriate interventions, and its R&D have made many interventions to address chronic diseases through innovative medicines that effectively and safely treat chronic disease (Armenio, et. al., 2013).

2.2.3 Pharmaceutical Industry Challenge

The global pharmaceutical market is expected to reach nearly USD 1.1 trillion by 2015, according to the IMS Institute for Healthcare Informatics (IMS Health, 2011). This growth will happen while the number of new innovative drugs is less and less, and R&D are no longer the driving force for growth in pharmaceutical industry (Szalkai & Janko, 2011). Therefore, to grow and remain profitable, for a pharmaceutical company, investment in marketing activities may be the key driver of success or even the lifeline to maintain business. In addition, expiring drug patents and globalization will increase the pressure on pharmaceutical marketing to achieve sales growth. This in turn will increases the pressure on pharmaceutical companies on targeted customers primarily physicians.

2.3 Pharmaceutical Marketing

2.3.1Marketing Definition

Marketing always exists everywhere, and all of us practice marketing, even when a baby cries he/she markets his/her needs and wants. The general definition of marketing is about identifying and meeting human and social needs, "*meeting needs profitably*" (Kotler & Keller, 2012, p. 27).

There are social and managerial definitions of marketing, Kotler and Armstrong (2012) have adopted a social definition of marketing as "*a societal process by which individuals and groups obtain what they need and want through creating, offering, and freely exchange products and services of value with others"* (p.27)

The most accepted managerial definition, given by the American Marketing Association (AMA) is *"the activity, set of institutions, and processes for creating, communicating, delivering, and exchanging offerings that have value for customer, clients,*

partners and society at large". This definition was approved in July 2013 and replaced the old definition of AMA which is "Marketing is an organizational function and a set of processes for creating, communicating, and delivering value to customers and for managing customer relationships in ways that benefit the organization and its stakeholders*" (AMA, 2013, p. 260)* .

Kotler and Keller, (2012) summarize the importance of the marketing by the following; marketing plays key roles that enable firms to prosper financially and even survive in face of an unforgiving economic environment. Finance, operations, accounting and other business functions won't really matter without sufficient demand for products and services so the firm can make a profit. In other words, the finance success often depends on the marketing ability Marketing's broader importance extends to society at large. Marketing has helped introduce and gain acceptance of new products that have eased or enriched people's lives. Successful marketing build demand for products and services, which, in turn, creates jobs. Also, successful marketing allows firms to fully engage in socially responsible activities.

Evolution of marketing didn't took place overnight, but take in three eras; production, sales and marketing. In the marketing era -which is prominent now- firms adopt the marketing concept, which involves; focusing on customer needs before developing the product, aligning all functions of the company to focus on those needs and realizing a profit by successfully satisfying customer needs over the long-term (Smith, 2002). Pharmaceutical companies strongly adopt marketing concept, and one can say that the pharmaceutical industry is a marketing giant.

2.3.2 Pharmaceutical Marketing Definition

Pharmaceutical marketing or promotion -will be used alternatively, sometimes called medico-marketing or pharma marketing in some countries- has many definitions. One of broadly used definitions is the old definition of the WHO: "*all informational and persuasive activities by manufacturers, the effect of which is to induce the prescription, supply, purchase and/or use of medicinal drugs*" (WHO, 1988, p. 5).

International Federation of Pharmaceutical Manufacturers Association (IFPMA) defines pharmaceutical promotion as "*any activity undertaken, organized or sponsored by a member company (pharmaceutical company member of IFPMA) which is directed at healthcare professionals to promote the prescription, recommendation, supply, administration or consumption of its pharmaceutical product(s) through all media, including the internet*" (IFPMA, 2006, p. 5).

According to the Prescription Drug Marketing Act (PDMA), a law of the United States federal government, pharmaceutical marketing is the business of advertising or otherwise promoting the sale of pharmaceuticals or drugs (U.S. Department of Health and Human Services, 2006).

The pharmaceutical market are characterized by multiplicity of players which includes physicians, pharmaceutical companies (manufacturers and firms), drug wholesalers, pharmacists, the governments, health organizations, insurance companies and patients. At the same time, the pharmaceutical market is characterized by the phenomena of derived demand, where the end consumer of the product is not necessarily the decision maker of the purchase process. The purchase process is controlled by the patients and physicians, where the physicians act as the gatekeepers or intermediaries who decide whether or not purchase will be made and if so, which drug will be purchased through prescription (Zelnio, 2012).

Therefore, pharmaceutical marketing practices focused on making physicians as well as the general public aware of new and existing pharmaceutical brands. For physicians, pharmaceutical companies regularly visit them by PCRs, distribute free medical samples, gifts and promotional printed materials and sponsor educational events. Also, by promotion through DTC advertising, they can increase awareness about their brands for patients. Through these marketing practices, it becomes possible for pharmaceutical companies and drug wholesalers to exchange information, to match as closely as possible the marketing mix of their companies to the needs of their costumers or patients (Smith, 2001).

2.3.3 Pharmaceutical Marketing Importance

The pharmaceutical industry is ranked as among the most profitable industries, and much of its success can be traced to effective marketing of its products, to both health professionals and consumers. The pharmaceutical industry is one of the most marketing-intensive industries, where the ratio of the marketing expenditures to the sales may be as high as 20% (Fischer, 2014).This is not done as a kind of generosity, but it is a well-planned marketing strategy used by the pharmaceutical industry to enhance their product sales. In other words, this multi-faced approach is designed to promote drugs by influencing physicians' prescribing practices.

The announced main goal of pharmaceutical marketing is to improve healthcare by providing medications for diseases and improving public’s awareness about diseases conditions. In addition, pharmaceutical marketing aims to improve the practice of medicine of healthcare professionals. Definitely, pharmaceutical marketing also aims to increase sales and profits for manufacturers and wholesalers (Aert, 2010).

2.3.4 Pharmaceutical Marketing Controversy

Despite of these announced goals of marketing practices the role of pharmaceutical marketing is one of the most debated and divisive ethical issues which has surrounded by a big controversy. Supporters of pharmaceutical marketing claim that marketing expenditures give innovative pharmaceutical manufacturers a fair chance to recover high R&D expenditures. Moreover, marketing may serve as a communication channels to educate

physicians and expose consumers to information that may improve their health outcomes and medical options. In contrary, opponents criticize these pharmaceutical marketing activities as wasteful, excessive, exceed R&D expenditure and as potential contributors to the overuse, misuse and wrong prescription of drugs by physicians (Kremer, et al., 2008). From these two perspectives, it can be concluded that contradictory views will exist also regarding the physicians industry relationship also.

2.4 Physicians – Industry Relationship

2.4.1 Physicians are Primarily Targeted by Pharmaceutical Companies

Medicine (a drug) differs from all other products; it plays a crucial role in the attainment or maintenance of human health, prolongs lives and improves the quality of life. Meanwhile, it is vital to be used rationally, if a patient needs treatment, he/she must have access to the right medication, in the right dosage and for the appropriate course of treatment. Healthcare professionals, such as physicians and pharmacists, play a key role in ensuring that medicines are used appropriately, they need to assess different treatment options and consider each for potential benefits and harms.

Pharmaceutical companies target healthcare professionals including physicians, pharmacists, nursing and healthcare workers who influence the drugs' prescription, dispensing, supplying, purchasing, administration, recommendation and consumption. In addition, they target healthcare profession associations, health governmental committees and regulatory bodies, academic researchers, educators, consumers, consumer organizations, public and private sector payers and wholesalers. Because physician acts as the first and major gatekeeper to the choice of the drugs and his/her role in deciding the therapy is still dominant - except in some areas as OTC market, where patients have more power to choose between the drugs- it is no surprise that pharmaceutical companies primarily target physicians (Studdert, et al., 2004).

Pharmaceutical companies typically direct their marketing practices toward physicians and, as of late, directly to patients (consumers). For example, in 2011, the pharmaceutical industry spent nearly USD 29 billion on drug marketing, more than USD 25 billion on marketing directly to physicians and almost USD 4 billion on advertising directly to consumers. According to Cegedim Strategic Data (CSD), it has been estimated that on average, drug companies allocate USD 8,000 to USD 13,000 per physician per year (Wazana, 2000). Actually nine out of ten marketing practices target physicians directly and only one marketing practice directly targets the patients.

2.4.2 Controversy about Physicians – Industry Relationship

The relationship between physicians and the pharmaceutical industry has become a major topic of controversy for health researchers, and policymakers, as well as in the media (Brennan, et al., 2006). The spectrum of opinions, concerns and policies regarding this

interaction ranges from very conservative positions that argue to ban all interactions between physicians and pharmaceutical industry to more liberal positions that call for free collaboration, with many positions in between.

2.4.2.1 Opponents of Physicians- Industry Relationship

According to the literature, much of the concerns and criticisms about physicians-industry relationship by opponents revolve around the questions whether the this relationship affects physicians' medicine practice and, if they do, whether this influence is positive or negative for the quality and cost of healthcare and the profession of medicine itself. There is a substantial body of evidence that demonstrated that physicians-pharmaceutical companies interaction have negative outcomes on physicians, these effects end by biasing professional judgment, degrading professionalism, and denuding patient trust and respect for the medical profession (Sierles, et el., 2005).

In addition, when industry is inserted into physician–patient relationship, the potential for inherent conflicts of interest is high and some physician–industry relationships have been associated with increased perception of conflicts of interest among physicians (Brennan, et al. 2006). In healthcare practice, this conflict of interest comes up when a physician's personal interest from pharmaceutical companies conflicts with physician's responsibilities about his/her patients' care as a professional.

Conflicts of interest can take many forms, some more obvious than others. For example, involvement of physicians in the selection of medications for the hospital formulary, while he/she is receiving funds for research or being company consultant or speaker and receiving an honorarium from one of the contending companies. Some conflicts of interest are more substantial, when a physician directly profits from sales, such as being an industry employee, stockholder, member of a board of directors, a regular consultant, or owning a patent (Albersheim & Golan, 2011). In these cases, the physician may compromise his/her integrity and prefer his/her personal gain over patients' care. Therefore, this financial relationship undermines the public's trust in medicine as a profession.

2.4.2.2 Supporters of Physicians - Industry Relationship

Supporters of physicians- industry relationship argue that this relationship is beneficial in several ways. By increasing the prescribing of innovative drugs, it provides better health outcomes and improving the cost effective use of healthcare resources. By distributing valued and updated information, it improves the quality of prescribing and patients' care (Spurling. et al., 2010).

At the same time, the interactions between physicians and industry are both inevitable, desirable, and divorcing the medical community completely from pharmaceutical industry is unrealistic. How could industry develop new drugs or devices

without input from the clinical and basic scientists? Without private pharmaceutical companies, few innovative medications would have been developed for use in clinical practice (Philip, 2009). Therefore, the total separation between the profession of medicine and the drug and device industry would cause irreparable harm to our patients by the lack of new innovative therapies in the future much more than the assumed bias produced by industry (Bove, 2009).

Also, not all marketing practices are biased and harmful to medicine practices, the American College of Clinical Pharmacy confirms and recognizes that certain relationships between industry and healthcare professionals are ethically appropriate, often beneficial, and unavoidable (ACCP, 2008). In addition, many multinational pharmaceutical companies are committed to the improvement of the health of humankind through R&D of new innovative medicines and the marketing of pharmaceutical products of reliable quality, in accordance with high ethical and good practice (IFPMA, 2006). For example, Novartis – one of the leading pharmaceutical company worldwide – committed to improving health in its mission, as **Joseph Jimenez, Chief Executive Officer of Novartis** stated:

> "*We aim to improve global health. Through our business, we make an important contribution to society: We discover and develop innovative healthcare products, targeting unmet medical needs. Our patients and customers need to trust us and our products. They expect us to do business responsibly and ethically. "We apply our expertise in science and innovation to society's biggest health challenges. We take our role in improving health seriously and focus on areas where we can lead and make a significant impact"* **Joseph Jimenez, Chief Executive Officer, Novartis** (Novartis, 2014, p. 2).

In summary, despite the clear discrepancy and divergence in opinions, the literature tends to agree that the relationships of physicians with the pharmaceutical industry involves potentially negative effects on physicians (Sierles, et al., 2005), but still there is a big question. Do these negative effects on physicians much harm than the irreparable harm to our lives by the lack of new therapies in the future that would be result from total separation between the profession of medicine and the drug industry? This contradictory raises a big need to manage and govern – not completely banning- the interactions between physicians and pharmaceutical companies in favour of patients and society.

2.4.3 Formal Regulation and Ethical Codes Govern the Interaction

When act as a professional, physician has to be committed to higher standards than others, because he/she is engaged in a practice that is directed toward a most precious asset. The physician is not a businessman, he/she has to make decisions based on what is best for his/her patients, not based on maximizing his/her own profit.

Not only should the physicians and the pharmaceutical companies have to be committed to the improvement of the healthcare of patients through R&D of new drugs and marketing of drugs of reliable quality, in accordance with high internationally defined

standards. As part of pharmaceutical companies' commitment to healthcare, their marketing practices must be consistent with high ethical standards and should be designed to help healthcare providers to improve their practice and services to patients (IFPMA, 2006)

If all physicians and pharmaceutical companies comply with formal regulations and held to high standard of ethical codes, it will be really a very big contribution for the healthcare system and for the society at large. Unfortunately, the reality differs; both physicians and pharmaceutical industry are involved in illegal and unethical interactions (Hamdi, et al. 2012).

In developed countries, many cases of unfair ways of drug promotion have been identified. In 2012, GlaxoSmithKline Drug Company has been hit with a USD 3 billion penalty after admitting to the 'biggest healthcare fraud in history. The company encouraged it's PCRs in the US to mis-sell three drugs to physicians and lavished hospitality and kickbacks on those who agreed to write extra prescriptions, including trips to resorts in Bermuda, Jamaica and California (The Guardian, 2012).This is the picture of a developed country, where peer-reviewed journals are the first source of information regarding drugs followed by PCRs as second biggest source for them.

In developing countries, the situation is different and may be worst, where studies have proved provision of drug information with the intestinal intentional manipulation and misinterpretation (Rohraa, et al., 2006). Most developing countries do not have official policies or codes of conduct to regulate the conduct or content of marketing practices (Alssageer & Kowalski, 2012), or they have these regulation and codes but poor or no mechanisms to implement and monitor the interaction between physicians and pharmaceutical companies (Hamdi, et al. 2012).

Palestine case is similar to that of many developing countries. There are some regulations that regulate marketing practices but, no effective formal regulation nor ethical codes to govern the interaction between physicians (Balawi, 2013).

Prompted by these concerns and the potential of conflict of interest of physicians, international bodies, legal authorities, professional organizations, and pharmaceutical companies have developed formal regulations and ethical codes to govern the interaction between physicians and pharmaceutical companies, in an attempt to encourage appropriate relationship between physicians and pharmaceutical companies and to emphasis a rational use of the drugs.

2.4.3.1 Formal Regulations of Legal Authorities

Since 1988, the WHO ethical criteria emphasize that marketing practices must be reliable, accurate, truthful and not misleading (WHO, 1988). The IFPMA establish a code which underwent major revision in 1994 (IFPMA, 2006).

In mid-May 2010, the Food and Drug Administration (FDA) announced a new program that will attempt to increase the regulator's reach into the largest area of prescription drug marketing (FDA, 2010). The Association of the British Pharmaceutical Industry has a revised code in January 2006 (ABPI, 2006) ref 2/6.

2.4.3.2 Ethical Codes of Professional Associations

In the past few years, many medical professional organizations have released policy statements, includes guidelines for physicians, on the relationship between the medical profession and the pharmaceutical industry. The rationale is to ensure that the interactions do not lead to inappropriate prescribing behaviour.

For example, the AMA published an ethical guideline on accepting gifts from PCRs, stating that gifts should primarily entail a benefit to patients, should not be of substantial value, and should serve a genuine educational function (AMA, 2014). The PhRMA implemented a new code of conduct govern physician– industry relationships among its members in 2002. This code states that the interactions between PCRs and physicians should primarily benefit patients and enhance the practice of medicine (PhRMA, 2002).

2.4.3.3 Conduct Codes by Pharmaceutical Companies

In addition to the international organization and medical associations, many pharmaceutical companies adopt codes to conduct pharmaceutical marketing. For example Novartis –the most admired pharmaceutical company for many successive years- had implement voluntary code for conducting business for their associates and makes it as integral part of employment terms, it said that

> Code *of Conduct reflects our commitments to meet the expectations of our stakeholders as a responsible corporate citizen and contains the fundamental principles and rules concerning ethical business conduct. We believe that how we achieve our business results is as important as the achievement itself. The Novartis Code of Conduct forms an integral part of the terms of employment of all associates of the Novartis Group. Novartis insists on full compliance and will not tolerate any misconduct.*" (Novartis, 2014, p. 2).

2.5 Marketing Practices of Pharmaceutical Companies

Pharmaceutical marketing is an obvious and coincident aspect of medicine profession, as the world of medicine is infiltrated by the marketing practices of pharmaceutical companies. Therefore, the latitude of the marketing practices extends from medical education to patient care and includes clinical research. In other words, pharmaceutical companies target medical students, practicing physicians and researchers.

According to WHO (1988) Pharmaceutical companies currently use a multifaceted marketing approach or different marketing practices to market/promote their drugs; these practices are:

1- PCRs' visiting and detailing.
2- Promotional printed materials distributing.
3- Free medical samples distributing.
4- Gifts giving.
5- Non-promotional events sponsoring such as local scientific conferences and CME lectures.
6- Promotional events organizing such as drugs' presentations at group meetings and round table discussions and drugs' launches and symposia.
7- Foreign conferences travel sponsoring.
8- Scientific studies funding such as clinical trials and PMS studies.
9- Honoraria paying for consulting or speaking or other services provided by physicians to pharmaceutical company.
10- DTC advertising thought public media.

2.5.1 Classification of Marketing Practices

2.5.1.1 Direct to Physician vs Direct to Consumer Marketing Practices

Pharmaceutical marketing practices can be classified into two specific types: marketing practices aim at physicians called Direct To Physician (DTP) and marketing practices aim at patients called Direct To Consumers (DTC) (Kremer, et al., 2008).

DTP marketing practices are used by the pharmaceutical companies to inform physicians about innovations, to exchange product information, to create product awareness, to initiate the process of diffusion and adoption by physicians and to show their care toward consumers, in order to increase sales and profits (Aert, 2010). For many years, DTP has been the most important marketing practices and the PCRs' visiting and detailing is the dominant component of DTP (Manchanda, et al., 2005). In 2009, drug companies spent well over 60% of their total drug marketing on DTP promotion (IMS Health, 2010).

DTC marketing practices allow pharmaceutical companies to advertise and promote their drugs directly to the patients or consumers. Worldwide, this form of marketing practices is allowed only for OTC drugs and not allowed for POMs, except in the United States and New Zealand, where DTC advertising is allowed for POMs (Mansfield, 2005).

2.5.1.2 Push Stream vs Pull Stream Marketing Practices

A different approach for the classification of the marketing practices is introduced by Auton (2004), who urges that marketing practices undergo two streams of marketing. The first one is a *push stream* – including all marketing practices except DTC advertising- which targets the decision makers by influencing their prescription choice.

The second is *a pull stream*- through DTC advertising only- which targets the end consumer to choose marketed product and to place pressure over the physicians to prescribe a specific drug in accordance to a patient's request.

2.5.1.3 Commercial (Promotional) vs Non-Commercial (Non-Promotional) Marketing Practices

According to Williams and Hensel's (1991) classification, DTP pharmaceutical marketing practices can be further classified into commercial and non-commercial marketing practices. *Commercial practices -called promotional* by pharmaceutical companies- are informational channels initiated by pharmaceutical companies to mainly focus on delivering direct promotional messages on a certain drug. Commercial practices are known as marketer-controlled practice of influence, because they are directly under the authorization of pharmaceutical company. Among the commonly used commercial practices are PCRs' visiting and detailing, free medical samples distributing, gift giving, promotional printed materials distributing, and promotional events organizing as drugs' presentations, launches and symposia.

All commercial or promotional practices are communication strategies through which a company passes a message of its products and services to its target physicians or patients. The content of the message in promotional practices is information that notifies physicians and patients about the efficacy and the characteristics of a drug, to eliminate any uncertainty and initiate the process of diffusion and early adoption of the new drug (Manchanda, et al., 2005). The companies' promotional practices comprise basically of message consisting of the appropriate use of branding, logo or slogan (Ijoma, et al., 2010).

In the early stages of the product life cycle, marketing messages are more as an informative instrument – with large in size investment in the period right after the introduction of a brand or a new drug- later this function becomes more persuasive (Osinga, et al., 2010).Pharmaceutical marketing message can have direct effects and indirect effects. *Direct effects, called reminder effects*, influence physicians' probability to prescribe (Manchanda, et al., 2005), while *indirect effects* are effects that indirectly affect physician adoption, change attitudes and reduce uncertainty about the exact quality of a new drug through a process of learning (Narayanan, et al., 2005). By these efforts, pharmaceutical company can be competitive with other companies in the pharmaceutical industry.

Non-commercial practices -called non-promotional by pharmaceutical companies- are usually initiated by healthcare organizations, health professional associations, scientific committees, clinical researchers, academic physicians, retail chain pharmacies and others with sponsoring from pharmaceutical companies. Non-commercial practices do not necessary address a certain drug but rather tackle a general health problem or medical condition. Non-commercial practices are known as non-marketer controlled sources of influence because they are not directly under the authorization of pharmaceutical company. Among the commonly used non-commercial practices are; non promotional events as scientific conferences and CME program, clinical trials, and journal articles (Rod & Saunders, 2009).

2.5.2 Expenditure on Marketing Practices

According to latest CSD data (2014), the pharmaceutical industry invested just over US $92 billion in marketing practices in 2011, but they were a cautious lot in 2012 and reduced their marketing spending by 8%. In 2013, while industry investment in pharmaceutical marketing practices remained flat from 2012 -at just under USD 85 billion - emerging markets saw increased expenditures, while the United States and Europe cut their spending.

The expenditure on marketing practices by pharmaceutical companies is increasing day by day. For example, in 1998, pharmaceutical industry spent USD 12.7 billion in the United States on promoting its products while in 2011 the pharmaceutical industry spent nearly USD 29 billion on drug promotion (CSD, 2012). The highest spending for the promotion of prescription drugs was in 2004 with more than USD 57.5 billion (Applbaum, 2008).

The majority of pharmaceutical marketing practices expenditures occur in developed countries and the Middle- East and North Africa regions contributed only 1.8% according to the Statistical, Economic and Social Research for Islamic Countries (SESRIC) in 2011. Nowadays this area appears as emerging market which become under the scope of large multinational companies, as the Middle East and North Africa pharmaceuticals market is expected to reach 153 billion by 2016. A rapid increase in population has stoked drug demand especially for higher-yield pharmaceutical products attracting the attention of multinational pharmaceutical companies. The region competes with Asia and Latin American countries in term of the projected growth in its local pharmaceutical industries. Of the 22 odd countries in the region, Turkey, Israel, Saudi Arabia, Egypt and Iran stand out as the largest markets in terms of projected growth potential and value representing a host of opportunities (Market Wired, 2014).

2.5.3 Pharmaceutical Marketing in Palestine

There is very limited data about the pharmaceutical marketing in Palestine including the Gaza Strip. One report by USAID (2009), confirms that pharmaceutical sector uses a wide variety of promotional materials and sales methods. This report is followed by another one in 2013 which confirmed that the pharmaceutical sector in Palestine has always been a leading sector in Palestine, especially with regard to the adoption of international standards and best marketing practices. This was due to the sector's exposure to international competition as foreign products enter the Palestinian market (USAID, 2013).

No local data are available about the expenditure of pharmaceutical companies on marketing practices in Palestine. The financial reports of some local companies, may give some indicators, show that the marketing and sales expenditure to sales ratio ranged between 10-20% of sales, but there are no data on the expenditure on marketing separately (Jepharm, 2014; Pharmacare, 2014). The strong indicator of the growth in marketing

expenditure is that local company like Pharmacare expenditure on marketing and sales increases by 60% from USD 1.6 million in 2012 to USD 2.9 Million in 2013 (Pharmacare, 2014).

The researcher market observations confirm the following insights. Large number of pharmaceutical companies and drug wholesalers are competing on small market, which is declining by the huge amounts of illegal drugs which penetrate it through tunnels from Egypt. All of pharmaceutical companies fiercely compete to promote their drugs by changing physicians' prescribing behaviours. The influx of PCRs into MOH hospitals and physicians' offices is attracted the attention of every one in contact with this field. MOH hospitals' physicians represent the primary target group for pharmaceutical companies. Most MOH hospitals and physicians allow free and unrestricted access to PCRs. Low income and income dissatisfaction may encourage physicians to engage more in marketing practices especially at the absence of effective formal regulations and ethical codes govern such interaction. These observations were confirmed by the interviews conducted by researcher with some experts in pharmaceutical marketing practices in the Gaza Strip (Balawi, 2013; Masroujah, 2014; Zemili, 2014; Shurrab, 2014; Mehadi, 2014; Kishawi, 2014). Many of these insights and others are presented at the following sections for each marketing practices.

In summary, the available data on pharmaceutical marketing in Palestine, and more specifically in the Gaza Strip are very poor. This study will help to shed light on some facts about.

2.6 Types of the Marketing Practices

The following marketing practices are cited in the literature and frequently used in relevant studies. In the following subsections, each marketing practice is presented in terms of definition, importance, and influence on physicians. Due to the limitation of the literature about marketing practices in the Gaza Strip, the researcher represents some market insights about each marketing practice based on his observations and feedbacks from different experts in the field of pharmaceutical marketing practices who were interviewed by researcher.

2.6.1 PCRs' Visiting and Detailing

2.6.1.1 Definition of PCR:

The presence of PCRs -in some literature called pharmaceutical sales representatives- almost becomes a fact at many healthcare practice settings and medical schools around the world. Pharmaceutical companies had traditionally employed large sales force -called field force- to visit and have direct face- to- face meeting called "*a call*" with healthcare professionals such as physicians, pharmacists and nurses, to encourage them to prescribe their products more.

A PCR is defined as "a *drug company's employee who regularly visits physicians to provide information on the company's products*" (Alssageer & Kowalsk, 2012, p. 1). Reidy (2005) describe the job of PCRs in an interesting and obvious manner; he stated that

> *"An official job description for PCR is to provide healthcare professionals with product information, answer their questions on the use of products, deliver promotional materials, and distribute product samples. An unofficial, and more accurate, description would have been to change the prescribing habits of physicians" (p. 3).*

PCRs must have a basic knowledge of physiology (the study of how the human body works), pathology (the study of diseases) and pharmacology (the study of drugs and their effects on humans), because physicians will ask them about drugs, how they work, how to target the disease and their side effects. Other aspects of knowledge have PCRs to acquire include the selling points of the promoted drugs which are the features (What the drug is or has?) and the benefits (What does the feature do to the patients?).

PCRs are not selected based on this knowledge, but based on their personality, presentability, intellectuality and friendship natures, then are trained to be more personable, friendly, attentive, persuasive, pervasive, flexible, creative and helpful. They are also trained to assess physicians' personalities, practice styles, prescribing behaviour and preferences, where the best PCRs have to tailor their messages constantly according to their customer's reaction. A successful PCR, is the PCR who has a high sale growth rate, dominates his/her business region – area/territory as reflected by market share - and has an ability to maintain good relationship with customers especially key opinion leaders.

2.6.1.2 Importance of PCRs

The use of the PCRs constitutes one of the most expensive and extensively used marketing practices. Just less than half of the amount of marketing spending goes to PCRs (Wannza, 2000) and marketing staffs are the largest and fastest growing segment of industry employees (PhRMA, 2011). From an industry perspective, PCRs are the vital part of the marketing practices; they are focal point in applying all other marketing practices and crucial to successfully implement marketing strategy. This is true around the world, although the tactics may vary from country to country, and even area to area within countries.

The efforts by PCRs to hawk drugs are including drug-related promotional printed materials distributing, free medical samples distributing and gift giving, but the most of PCRs' time is directed at face- to- face contact with healthcare professionals which called "*Detailing*". Detailing is sending out PCRs to providing medical information on a marketed drug and building relationships with hospital or clinical staff to affect their clinical decisions. Also, it could be defined as a marketing practice used by PCRs to educate physicians about the vendor's products in an attempt to influence physicians' prescribing behaviour (Green, et al., 2012).

While traditional face- to- face detailing with physicians may continue to be the primary means for marketing to physicians, companies are experimenting with a number of new internet initiatives, like "*e-detailing*". E-Detailing is continually evolving term describing the use of electronic, interactive media to facilitate detailing to physicians (Rutgers Business School, 2014).

The importance of detailing as one of physicians' sources of information about drugs has often been investigated. It is an accepted and well-documented fact that detailing is the biggest source of drug information for the prescribers (Masood, et al., 2009).

One additional important role of PCRs' is to track the changes in physician prescribing behaviour by seeking field information. Two methods are used; a simple method called "*prospecting*" through asking pharmacists, nurses, physicians' colleagues and assistants) and/or an advanced method through purchasing information from the vast and detailed databases of prescription tracking companies such as IMS Health Company.

2.6.1.3 Influence on Physicians

There is strong evidence that PCRs detailing affects physicians' prescribing behaviour in a significant manner. PCRs' industry detailing has a strong impact on prescribing behaviour (Chew, et al., 2000) and associated with requests by physicians for promoted drugs to be added to the hospital formulary (Wazana, 2000). Spurling, et al. (2010) in their systematic review of the 29 studies of PCRs' visits found that 17 studies have an association with increased prescribing of the promoted drug.

At the same time, there is evidence that marketing practices have an adverse impact on prescribing habits. Physicians who met with PCRs frequently were more likely to prescribe medications that are not clinically indicated (Watkins, et al., 2003), shift prescribing in ways that may be not consistent with evidence-based guidelines (Manchanda, et al., 2005), make physicians prescribing practices are less appropriate (Lexchin, 2009), influence physicians' ability to weigh the risk-benefit profiles of new, heavily promoted drugs (Austad, et al., 2011) and increase prescribing costs (Wazana, 2000).

Although PCRs serve as a prominent source of information about drugs, there is a little objective verification of the accuracy of their information. It is not a surprise that PCRs are biased toward their own products. Ziegler, et al. since 1995 found that information conveyed to physicians by PCRs is selected favourable to the product and in some cases inaccurate. Many observational studies have found an association between prescriber reliance on PCRs' information and more frequent or lower quality prescribing (Hoffman, et al., 2010).

In summary, PCRs are vital for the implementation of all other pharmaceutical marketing practices, they represent one of the main sources of information for physicians, and there is strong evidence that they influence physicians prescribing behaviour in favour of promoted drug.

2.6.2 Promotional Printed Materials Distributing

2.6.2.1 Definition of Promotional Printed Materials

Printed materials have long been one of the most widely used marketing practices. Healthcare organizations - from hospitals, nursing homes, pharmacies, to pharmaceutical companies- use printed materials to market their products and services. The efforts by PCRs to affect physicians' prescribing behaviour and encourage more drug prescriptions, include distributing of promotional printed materials such as brochures, journals advertisement and many drug-specific promotional printed materials like detail aids, drop cards, flayers, pamphlets, leaflets, posters, booklets, manuals … etc.

Brochures are one of the well-known promotional tools of pharmaceutical companies; they are small, thin books that usually have many pictures, diagrams and information about a product (Khoaanh, 2011). *Journal advertisement* is a popular pharmaceutical marketing tool because journals allow pharmaceutical companies to place advertisement in journals that their target audiences of health professionals read frequently. Other promotional printed materials may differ in their production as shape, size, paper and colors but all aim create effective, compelling and long-lasting message about the marketed drug.

2.6.2.2 Importance of Promotional Printing Materials

Despite the advent of digital technology and social media, the printed materials remain of the most effective forms of marketing used by pharmaceutical companies. PCRs take the advantage of detailing interactions with physicians and using promotional printed materials that reflect their drugs' messages and companies' images.

Promotional printed materials are still considered as the most important sources of information despite the apprehensions about the truthfulness of the promotional claims (Rohraa, et al., 2006). British study reported that PCR's promotional printed materials are the most frequently used information source on drugs for general practitioners (Prosser, et al., 2003).

2.6.2.3 Influence on Physicians

As the promotional printed materials are important source of information for physicians, the accuracy and validity of the information presented in these printed materials are crucial for the practice of medicine, as it ultimately affect the physicians' prescribing behaviour. Cardarelli, et al. (2006) reported the heavy rely of physicians on such information while making prescribing decision.

Evidence indicates that the integrity of pharmaceutical companies promotional printed materials directed at doctors is questionable. A study in Germany found that only

6% of brochures given to doctors were scientifically supported by the literature (Kaiser, et al., 2004). A study by Mali, et al. (2010) in India shows, none of the promotional materials fulfilled all WHO criteria, majority (92%) brochures claimed about the efficacy of product, and a few about safety (37.8%).

An analysis of 60 advertisements that had appeared in the British Medical Journal between 1999 and 2001 demonstrated that drug advertising uses strong imagery to fabricate mythical associations between medical conditions and branded drugs, and that drug advertising manipulates readers' perceptions. Unethical approaches in promotional printed material may also include expanded indications and exaggerated efficacy (Scott, et al., 2004).

In summary, despite that advent of technology, the promotional printed materials still have a space as one of the main marketing practices used by pharmaceutical companies. They aim to create a compelling message about the promoted drug. Despite the debate about their accuracy and objectivity, they represent an important source of information for physicians, which influence their prescribing behaviour.

2.6.3 Free Medical Samples Distributing

2.6.3.1 Definition of Free medical Samples Distributing

Distributing of free medical samples, known as ''sampling,'' is a key marketing practice used by pharmaceutical companies and a major activity of PCRs. A medical sample is defined as "*a package containing a limited quantity of a pharmaceutical product sufficient to evaluate clinical response, distributed to authorized healthcare practitioners free of charge, for patient treatment*" (R&D, 2010, p. 4). This approach is a common and fundamental marketing practice in developing countries, especially for local generic companies but actually became less and less in developed counties especially for multinational pharmaceutical companies (CSD, 2012).

2.6.3.2 Importance of Free Medical Samples Distributing

Both physicians and patients are appreciating free medical samples. Physicians often accept, and even request, free medical samples. Samples are beneficial in the sense that they can be given to patients in order to start treatment plans instantly, and they also serve as a way of reducing the cost of a complete prescription for patients. Also free medical samples allow physicians to demonstrate proper use of the drug and to evaluate adverse effects. Even physicians who refuse to have PCRs detailing usually want free medical samples (Applequist, 2011). From patient side, they appreciated to get a gift from the physician; also samples help some indigent people by giving them access to appropriate therapy that they might not have been able to afford (Adair & Holmgren, 2005).

Applequist (2011) believed that the purpose of providing free medical samples from pharmaceutical companies is to gain entry into physicians' offices, and to make physicians familiar with promoted drugs. Therefore, samples are the key to getting through the door of a physician's practice.

One of the interesting comments about samples was introduced by Karperien, et al. (2007), he stated that:

> *Free medical sample is the same as that for free cheesecake sample at the local supermarket – they are not charity but enticements intended to increase demand for a specific product ,potentially over a cheaper equivalent product", (p.55).*

Despite this reduction in expenditure on free medical samples, this practice still represents a key tool for all pharmaceutical companies especially at the early life cycle of the drug and in developing countries for generic medicines (CSD, 2012).

2.6.3.3 Influence on Physicians

Despite the mentioned benefits, the distributing of free medical samples continues to be a controversial and highly debated topic. The literature supports the notion that free medical samples have a strong impact on prescribing behaviour, leading to irrational prescribing patterns, increased branded mediations use, and the use of non–first-line agents (Symm, et al. 2006). A study by Chew, et al. (2000) concluded that the availability of free medical samples led physicians to dispense and subsequently prescribe drugs that differ from their preferred drug choice. Likewise, Adair and Holmgren (2005) reported that when resident physicians had access to free medical samples, they were more likely to write prescriptions for heavily advertised drugs than for cheaper ones.

The opponents respond to the claim of pharmaceutical companies and physicians that free medical samples are put in place to help those patients who cannot afford high medication prices and reduced the cost on indigent patients, by the following arguments:

Firstly, evidence shows that free medical samples are actually most often used by physicians and staff themselves (Adair & Holmgren, 2005), and poor and uninsured patients are less likely to receive free medical samples than those with higher income and those with insurance coverage (Vincent, 2008). *Secondly*, pharmaceutical companies do not provide samples for an entire course of treatment because this cannibalizes their sales, and patients given a sample for part of a course of treatment almost always receive a prescription for the same drug (Sadek & Henderson, 2004). *Thirdly*, free medical samples can benefit patients if they are used on a one-time basis for a problem that will not recur, but if the disease recurs or chronic, patients will repurchase regularly. *Fourthly*, it can be difficult to change patients who receive such samples to less expensive alternative drug once the samples are no longer available. *fifthly*, pharmaceutical companies provide samples only for the most promoted, usually most expensive, new drugs, and this leads physicians to prescribe these same agents to other patients (Sadek & Henderson, 2004),

therefore patients receiving free medical samples have been found to pay higher out-of-pocket costs overall because of the association with a brand name (Chimonas & Kassiser, 2009).

Based on these arguments, the free medical samples use becomes under scrutiny by various agencies in many countries and some countries such as South Africa have banned the use of sampling altogether. Some individual institutions have also done so, but many developing countries do not have such regulations (Warrier, et al., 2010).

In summary, free medical samples, which appreciated by patients who are unable to afford medications and benefit physicians by broadening their clinical experience with the drugs, carry the risk of encouraging physicians to prescribe a more expensive drug that may not be the optimal choice.

2.6.4 Gifts Giving

2.6.4.1 Definition of Gifts Giving

Gifts exchange is a well-known tradition of most, if not all, cultures. It aims to build or maintain good relationship among people; therefore, pharmaceutical companies adopt gift giving as one of the key marketing practices.

Gifts to physicians from pharmaceutical companies range from trinkets gifts, such as pens, notepads and mugs to much more lavish gifts, and from materials related to medicine practice such as textbooks and penlights to that unrelated to the medicine practice such as watches and silk ties (Pinto, et al., 2007).

Commonly many physicians receive small gifts display promoted drug logos. Often these gifts considered as branding activities, they are kept close and at hand of physicians to ensure that a promoted drug's name stays uppermost in a physician's subconscious mind. This branding activity aimed to strengthen brand awareness and build brand equity (Grande, et al., 2009).

2.6.4.2 Importance of Gifts Giving

From pharmaceutical companies perspectives gifts are aimed to increase drug prescriptions and sales by raising awareness of their valuable products and therefore, have direct benefits for patients. Also, gifts from PCRs can strengthen the relationship with physicians, invite physicians to give more time for PCRs detailing and encourages physicians to attend meetings which may be reduced without an accompanying gifts (Grande, et al., 2009).

Small trinkets gifts may actually be more effective, in the long term, at changing prescribing behaviour because of their impact on attitudes and beliefs, while large lavish

gifts are more effective than small gifts at changing the immediate prescribing behaviour of larger numbers of people (O'Keefe, 2002).

2.6.4.3 Influence on Physicians

There is a clear consensus among literature that gifts do affect physicians' prescribing behaviour, even when they do not admit it to be so, and even when the gifts are of negligible value. The literature shows that stationery gifts that display the brand name of a specific product can have a subtle influence on a physician's prescribing decisions (Jain, 2010). Patients' perceptions of gifts to physicians tend to be negative, more so than most physicians (Pinto et al., 2007). Many recipients of industry gifts vehemently deny that these items -particularly when they are of relatively little monetary value- influence their practice, despite strong evidence to the contrary, also they felt that smaller gifts were more appropriate than ones that are more valuable (Wazana, 2000).

Opponents of gifts giving from pharmaceutical companies to physicians argue that it creates opportunities for bias, affects physicians' prescribing negatively through non-rational prescribing, and contributes to the high cost of prescription medications, because the cost of such gifts is ultimately passed on to consumers (Jain, 2010). The problem with gift giving relates to the perception that accepting gifts can generate a potential conflict of interest. Gifts create both expectation and obligation, and social psychologists agree that the prevailing purpose of the gift is to establish the identity of the donor in the mind of the recipient and to oblige the recipient to reciprocate (Dana & Loewenstein, 2003).

In more simple words, gifts are exchange; anyone who receives a gift will feel unconsciously the need to reciprocate; to give something in return. This is a critical conflict of interest for a physician who accepts gifts from the pharmaceutical companies and then is asked by pharmaceutical company which gives him/her such gifts to prescribe a drug for a patient who will pay the money not the physician him/herself. One of the aggressive comments on the gifts that high prescribers may receive is stated by Oldani (2004), who said that:

The essence of pharmaceutical gifting is 'bribes that aren't considered bribes" (P. 3)

Based on these facts, several countries and institutions are taking an active role in implementing formal guidelines to monitor gifts to physicians (Hodges, 2005). Recent policy changes have resulted in the industry adopting voluntary bans on many gifts including courtesy gifts and they emphasize on that promotional gifts should be relevant to the practice of medicine, beneficial for patients and their value must be inexpensive compared to local salaries (Novartis, 2014).

In summary, gifts given by the pharmaceutical companies to physicians are presents, aimed to enhance the prescription of the promoted drug. There is a consensus about its effect on prescribing behaviour of physicians. No matter how trinket, they

produce a sense of reciprocity, which creates a conflict of interest for a physician between the desire to cure the patients versus the subconscious need to reciprocate the pharmaceutical company's generosity.

2.6.5 Non-Promotional Events Sponsoring

2.6.5.1 Definition of Non-Promotional Events Sponsoring

The involvement of pharmaceutical marketing in medical education occurs on multiple fields, including face -to- face meetings between healthcare professionals and PCRs through detailing, printed materials and educational events. Pharmaceutical companies typically sponsor educational events related to clinical pharmacology, epidemiology, disease management, drug discovery and safety, pharmacokinetics, pharmacogenomics, pharmacoeconomics, and many other topics (Lazarus, 2006). Broadly speaking, pharmaceutical companies sponsor two types of educational events - called in the Gaza Strip "Scientific meeting", which are non-promotional and promotional events.

The first are "*non-promotional" events* which are purely educational, sponsored by pharmaceutical companies but organized through an independent organization or sponsored by pharmaceutical company through unrestricted grant. These sponsorships or grants provided by the pharmaceutical companies to their customers as healthcare organization, health professional associations, and scientific committees, clinical researchers, academic physicians, retail chain pharmacies and others, focused on educating healthcare professionals. These independent educational grants are not tied to the purchase, sale, prescription or recommendation of the company's products (Jain, 2010).

The non-promotional type of educational events sponsored by pharmaceutical companies is including sponsoring of *CME programs and scientific conferences*. CME program is defined as "*educational activities that serve to maintain, develop, or increase the knowledge, skills, and professional performance and relationships that a physician uses to provide services for patients, the public, or the profession*" (Stanford Center, 2012). CME is essential for physicians, not only as part of their remaining up to date but also, in many countries - other than Palestine - as a requirement for maintaining their licenses.

The CME programs are independent of pharmaceutical companies, even though the companies pay for the activities themselves. Abroad, CME programs are organized by third parties, called CME providers, who are responsible for the selection of content, materials, educational methods, and venue based on specific guidelines. The content of a CME program or its related materials should promote improvements or quality in healthcare and not a specific proprietary business interest or a commercial interest. Presentations should give a balanced view of therapeutic options. Use of generic names will contribute to this impartiality (Lazarus, 2006).

In addition to CME programs, non-promotional events are commonly take place in the form of company-sponsored scientific conference. *Scientific conferences are generally defined as a major educational, scientific, or policy-making meetings of national, regional, or specialty medical associations* (AMA, 2014).

2.6.5.2 Importance of Non-Promotional Events Sponsoring

To varying degrees, medical schools, hospitals, and professional organizations depend on the support from pharmaceutical companies to sponsor such scientific events to educate their students, trainees, and practicing physicians. In conferences, the event's budget, the topic and content of lectures has to rest with the physician organizer/speaker, not the sponsoring companies, the speaker has not to focus on a single company or drug, educational materials must be differentiated from industry promotion, promotional materials are not distributed in the educational session and full disclosure of commercial support occurs (Jain, 2010).

Industry- sponsored CME lectures and scientific conferences pose an opportunity for the pharmaceutical industry to promote its products, and can be well received by physicians as purely educational (Karperien, et al., 2007). Because pharmaceutical companies recognize the potential for medical education to be used as a marketing tool, industry becomes the largest contributors to medical education (Austad, et al., 2011).

2.6.5.3 Influence on Physicians

The influence of medical education as a pharmaceutical marketing practice on the prescribing behaviour of physicians was shown by many investigators, who reported increase in prescribing of a sponsoring company's product after physicians attended CME lectures. Wazana (2000) found that attending sponsored CME lectures sponsored by pharmaceutical company were associated with increased prescription rates of the sponsor's medication and associated with non-rational prescribing. Even when physicians and CME providers express conviction that they will not be influenced by industry inducements, studies show that they are (Brodkey, 2005).

Although the pharmaceutical industry defends the value of its educational sponsorship, turning CME lectures and conferences into a marketing tool of the pharmaceutical industry is the main complaint against industry-sponsored CME lectures and conferences, where the literature agreed that sponsorship may affect the content of such medical education activities (Norris, et al., 2004). Even if the content of the CME lectures is not biased in itself, the range of topics offered through company- supported CME lectures is typically much more limited than CME lectures offered by academic centers and is much more focused on drug therapy (Katz, et al., 2002). A similar problem occurs when pharmaceutical companies are involved in scientific conferences (Karperien, et al., 2007).

Based on these facts, the opponents urged that marketing practices are not alternative to medical education, should not be replaced or even confused with it and they should be clearly differentiated from each other's.

In summary, pharmaceutical companies have a big stake in medical education, as they largely sponsor educational events for physicians. Despite the value of this educational sponsorship, the role of the pharmaceutical industry in medical educations has become one of the most debated and divisive ethical issues in contemporary medical practice.

2.6.6 Promotional Events Organizing

2.6.6.1 Definition of Promotional Events Organizing

The second type of educational events sponsored by pharmaceutical companies is *Promotional Events*. These events are completely sponsored, organized and conducted by pharmaceutical companies. These events include simple drugs' presentations at group meetings and round table discussions and drugs' launches and symposia. They aim to advance the use of the company's marketed drugs. The educational value of this type is less certain than the value of the non-promotional types such as CME lectures and scientific conferences. Usually these events include PCRs' presentations of the marketed drug, and the slides used are provided by the host pharmaceutical company**.** Topics for these presentations are just repetition (Jibson, 2006).

2.6.6.2 Importance of promotional Events Sponsoring

It is obvious that pharmaceutical companies provide these free lunches, so their PCRs can get the physician's ear and influence the prescribing practices. Individuals who propose a role for the pharmaceutical companies in medical education point to the potential benefits and importance of such events, such as the findings from industry-sponsored research presented in such events are beneficial and desirable for physicians (Jibson, 2007).

One tactic used in these events, in addition of association of meeting by rich meals, beverages and gifts, pharmaceutical companies sometimes endeavor to hire a key opinion leader who physicians see him/her as trustworthy and use that consultant as endorser or presenter. Key opinion leaders are senior physicians whose opinions are considered influential in determining both diagnostic and therapeutic practice (Jibson, 2006).

2.6.6.3 Influence on Physicians

An overview of the studies on the effect of contact between physicians and the pharmaceutical industry found that promotional events are associated with changes in their prescribing behaviour. Wazana, (2000) found that attending sponsored educational symposia was associated with increased prescription rates of the sponsor's medication with non-rational prescribing and requests from physicians for adding drugs to hospital

formularies. Most physicians would never admit any such influence (Dubovsky, et al., 2010).

Pharmaceutical industry opponents call for a cease of all pharmaceutical educational activities, such as drugs' presentation at group meetings and round table discussions, drugs' launches and symposia, and even the sponsoring of CME lectures and scientific conferences. They call all professional organizations and academic institutions to refuse drug sponsoring for such activities. The rationale is that all educational activities sponsored by pharmaceutical companies are inherently biased because the aim of these activities is to sell a drug rather than provide genuine education (Gupta, 2006).

Promotional events organizing carries benefits and risks, the improvement of medicine knowledge and practice is the main benefit, while the unbiased information is the main risk.

2.6.7 Foreign Conferences Travel Sponsoring

2.6.7.1 Definition of Foreign Conferences Travel Sponsoring

In addition to sponsoring of non-promotional local scientific conferences, one of the effective practices that may be used by pharmaceutical companies is to sponsor physicians' travel to foreign conference. It refers to sponsor physicians' foreign trip to attend regional or international conferences or symposia (Karperien, et al., 2007). This sponsoring may include full sponsoring or partial sponsoring for some travel expenses such as conference registration fees, tickets, transportation and accommodation.

2.6.7.2 Importance of Foreign Conferences Travel Sponsoring

There is little evidence discusses the important of this practice, one study confirms that this technique is used by pharmaceutical companies to enhance physician's loyalty to the company as whole, and to increase his/her prescription rate of the promoted drug (Wazana, 2000).

2.6.7.3 Influence on Physicians

Despite the little literature about this technique, some proofs show that pharmaceutical companies sponsor for travel expenses changes the prescribing behaviour of physicians (Wazana, 2000). An old study discusses such influence by Orlowski and Wateska (1992) who suggested that a physician who accepts money to travel to a symposium is 4.5–10 times more likely to prescribe a company-sponsored drug after such sponsorship than before and is 7.9 times more likely to submit a formulary request for that drug than a physician who does not.

Pharmaceutical companies less commonly sponsor the travel of physicians to attend foreign conferences, but this practice seems to be one of the most effective practices which target few market leader physicians.

2.6.8 Scientific Studies Funding

2.6.8.1 Definition of Scientific Studies Funding

A more specific marketing practice used by pharmaceutical companies, specifically large and multinational ones, is the *funding of scientific studies.* Most of drug studies are either done in- house by the pharmaceutical companies or externally by consultants who are paid for by the company, these scientific studies include both clinical trials and PMS (Anis & Gagnon, 2000).

Clinical trial is a trial to evaluate the effectiveness and safety of medications or medical devices by monitoring their effects on large groups of people. It may be conducted by government health agencies, researchers affiliated with a hospital or university medical program, independent researchers, or private pharmaceutical industry (Aert, 2010).

PMS study is a *scientific study implemented after a drug has been licensed for public use, designed to provide information on use and on occurrence of side effects* (Aert, 2010, p. 9). PMS study implies that companies pay physicians for participating in marketing study, however, a large part of this study does not serve for scientific purposes and is mainly aimed to increase market share by rewarding physicians for prescribing the marketed drug.

The involvement of physicians in scientific studies vary from individuals, such as practicing physicians receiving fees for marketing research, to institutions, such as an hospital or academic institution. The individual physician can participate in clinical trials or PMS study for recruitment of patients from her/his practice or for management and control of trial. Also, pharmaceutical companies may contract with clinics and hospitals to enroll patients in clinical trials of their drugs. In addition, academic centers may be have partnered with the pharmaceutical company to bring innovations effectively to market (Jain, 2010).

2.6.8.2 Importance of Scientific Studies Funding

Pharmaceutical companies fund scientific studies to receive return on its research investing. An increasing number of clinical trials -at all stages of product's life cycle- funded by the pharmaceutical companies, probably reflects the fact that pharmaceutical companies now spend more on scientific studies than the national institutes at countries level. The research-based pharmaceutical industry is estimated to have spent nearly USD 135 billion globally on pharmaceutical R&D in 2011. If the investment on R&D is considered, it becomes a huge value (IFPMA, 2012).

As the international pharmaceutical industry is among the most important sponsors of scientific studies, it is understandable that some of the most widely published authors of scientific articles are affiliated with, or sponsored by, pharmaceutical companies. Cooper

and Schriger (2005) determined that 58% of the original research cited in the pharmaceutical advertisement was sponsored by or had an author affiliated with the product's manufacturer.

2.6.8.3 Influence on Physicians

There are potential concerns from such involvement of pharmaceutical companies in scientific studies. Evidence shows that physicians who accept money to perform company-sponsored studies have been shown to be more likely to request the company's drugs to be added to the hospital formulary (Ashar,et al., 2004). Also, there is concern over the conflict of interest created by author who has personal financial links to companies. Bekelman, et al. (2003) found widespread conflicts of interest in the shape of financial connections between scientists, academic institutions, and the pharmaceutical industry.

In summary, pharmaceutical companies fund scientific studies to receive a return on its research investment and become a significant source of funding more than governments. There are potential concerns about such involvement of pharmaceutical companies in scientific studies.

2.6.9 Honoraria Paying

2.6.9.1 Definition of Honoraria Paying

Pharmaceutical companies make direct payments to physicians by various ways in compensation to some services. Honoraria paying are defined as a direct payment from pharmaceutical company to physicians, usually opinion leaders, for services such as consulting, advisory board and speaking (Jibson, 2007).

Such services provided by physicians to pharmaceutical companies include a wide range of activities, such as speaking, moderating educational programs, administrating scientific studies, evaluating drug utilization reviews, and serving on advisory boards, expert panels, or focus groups. Reimbursements and honoraria are acceptable in exchange of these services especially for those physicians who have expertise in academic settings, clinical care, research, and teaching that may appropriately be provided in exchange for reasonable fees (Jibson, 2007).

2.6.9.2 Importance of Honoraria Paying

A consultant, expert, or specialist who has special knowledge, experiences, or functions within a healthcare system or with drug products, diseases, or patient care represents a significant value for pharmaceutical companies to assist them in research, patient care, education, and marketing practices. Identifying, targeting, dealing and influencing such key opinion leaders remain a critical component of marketing practices

(Masood & Anwar, 2007). The 15 largest pharmaceutical companies spend 32% of their total marketing expenses on key opinion leaders (Nair, et al., 2010).

For example, pharmaceutical companies use key opinion leaders to present company provided presentations among physicians and pay them speaker honoraria. Speakers' honoraria for physicians are payments for speaking at a professional meeting. In addition, to this financial benefit there are some non-financial benefits to physicians. This practice may enhance prestige and reputation of the physician, add variety to day- to- day clinical practice, and bring new innovations and up- to- date knowledge to patients (Ashar, et al., 2004).

2.6.9.3 Influence on Physicians

The magnitude of this issue has been the subject of a small but consistent body of research. Avorn since 1982 shows that bias in favour of the sponsor's product is typical of these paid presentations. Receiving honoraria for speaking and engaging in industry-sponsored research is associated with requests for adding the company's product to formularies (Mitchell, 2009).

In summary, consultants, experts and specialists represent a significant value for pharmaceutical companies. The involvement of them in financial relationship may create conflict and influences physician's prescribing behaviour

2.6.10 Direct to Consumer (DTC) Advertising

2.6.10.1 Definition of DTC Advertising

Magazine, newspaper, television, radio, internet and other public media are possible pharmaceutical marketing tools, which allow pharmaceutical companies to maintain regular and mass contact with their customers' base through DTC Advertising.

DTC advertising is the promotion of drugs through public media, this form of advertising is directed toward patients, rather than healthcare professionals for OTC drugs (Auton, 2004). What is categorized as OTC drug varies from country to country and is dependent on the local regulation. Worldwide, and to date, New Zealand in 1981 and United States in 1997 are the only two countries allow DTC advertising for prescription drugs and consider this is legal (Mansfield, 2005).

2.6.10.2 Importance of DTC Advertising

Data show that every dollar spent on DTC advertising increases sales of the advertised drug by an estimated USD 2.20 to USD 4.20 (Rosenthal, et al., 2003). Therefore, the using and spending on DTC advertising as marketing practice by pharmaceutical companies have increased considerably in the last decade. In the United States, according

to Congressional Budget Office (2009), the average American views 100 minutes of televised DTC advertising for every minute spent with his/her physician and spending on DTC advertising represents nearly 25% of pharmaceutical companies' expenditures for all promotional activities.

Information has already become the most precious commodity. The consumers have the right to know about the available drugs, but most importantly, they have the right to receive, as much as possible, truthful, complete, unbiased, and clear information about the drugs, including OTC drugs.

2.6.10.3 Influence on Physicians

Evidence indicates that DTC advertising influences physicians' prescribing decisions (Mintzes, et al., 2003). The proponents of the DTC advertising often bring up solid but old argument that it can inform consumers of new therapies, motivate them to seek care, give them more autonomy in weighing treatment options, and lower drug costs by increasing competition (Peyrot, et al., 1998). At the same time, the critics of DTC advertising bring up some possible negative outcomes of DTC advertising. DTC advertising provides incomplete and biased information (Kessler & Levy, 2007), leads to inappropriate prescribing, increases costs as a result of the added costs of advertising, and consumes time in the physician- patient encounter (Stange, 2007). In addition, DTC advertising pressures physicians to use drugs they might not ordinarily use, and discourages the use of generics. Some of the findings clearly indicate adverse effects of the DTC advertising on physician-patient relationship (Lexchin, 2009).

Therefore, there is an increasing debate about the advantages and disadvantages of DTC advertising. The key controversy is not whether DTC advertising stimulates sales, but whether it is good or bad for healthcare or not. Even that DTC advertising has good and bad effects on healthcare, the benefits might be maximized and the harms minimized, by increasing the accuracy of information in DTC advertisements.

DTC advertising which directly targets patients through public media is effectively increases the sales. It has a clear controversy about its benefits and risks on health care and patient-physician relationship.

2.7 Exposure to Marketing Practices

The *exposure of physicians* to the marketing practices of pharmaceutical companies is the first dimension of the interaction between physicians and pharmaceutical companies. In this section, the researcher presents the literature which discusses the exposure of physicians to the marketing practices of pharmaceutical companies and the differences in the exposure due to physicians' characteristics.

2.7.1 Definition of Exposure

Exposure is the state of being in contact with something (Oxford Dictionary, 2007), while the exposure to the marketing practice which used in this research is related to the contact of physicians with marketing practices, which include the involvement, participation and engagement in various marketing practices. Therefore, it is the contacts or meetings between physicians and PCRs and the involvement of physicians in various marketing practices, so it involves more than just face- to- face visits with PCRs (Wazana, 2000).

2.7.2 Exposure to Overall Marketing Practices

The exposure of physicians to overall marketing practices refers to the percentage of physicians who are exposed to at least one marketing practice. There is mounting of studies that seek to find the exposure of physicians to different types of marketing practices separately. Only two studies seek to identify the exposure of physicians to overall marketing practices in similar manner to this study.

The first study is a national survey in the United States which shows that 94% of physicians reported any types of exposure to the marketing practices of pharmaceutical companies (Campbell, et al., 2007). The second study is in Saudi Arabia, which shows that 99.5% of physicians reported the exposure to at least one type of the marketing activities offered by pharmaceutical companies (Zaki, 2014).

The evidence suggests that the exposure of medical trainees and students to marketing practices of pharmaceutical companies are common, but this is not under the scope of this study (Misra, et al., 2010; Randall, et al., 2005; Zipkin and Steinman, 2005). Some of studies of medical trainee and students were helpful for the researcher in establishing the conceptual framework, methodology and interpretation of results.

The trend of the exposure to marketing practices varies over time, it can start as early as medical school and then resident typically benefits from industry-sponsored meals, free samples and small gifts such as pens and textbooks. These activities decline as physician enters practice and the frequency of receiving honoraria, conferences travel and studies funding increases (Wazana, 2000).

2.7.3 Exposure to Different Marketing Practices Types

In the following subsections, the researcher presents the previous studies which discuss the exposure of physicians toward each type of the marketing practices separately. From the literature review, the researcher suggests that exposure of physicians to the marketing practices at any practice setting can be measured by two parameters. The first parameter is the *extent of exposure* which refers to the percentage of physicians who are exposed to this marketing practice, while the second parameter is the *frequency of exposure*

which refers to how many time the physician was exposed to this marketing practice, in specific time period.

2.7.3.1 Exposure to PCRs' Visiting and Detailing

The literature shows that the extent of exposure of physicians to PCRs visiting and detailing is high. Moynihan (2003) estimated that in most countries, 80-90% of physicians are visited by PCRs. A study in Britain, Canada, New Zealand and the United States estimated that 85-90% of physicians see PCRs (Lexchin, et al., 2009). A National Survey in Japan found that the involvement in pharmaceutical marketing practices activities is widespread among physicians in Japan as 98% of physicians meet with PCRs (Saito, et al., 2010). This represents the highest reported extent of exposure to PCRs.

In the Arab countries, a Libyan study conducted by Alssageer and Kowalski (2012) shows that 94% of respondents had been visited by PCRs at least once in the last year. In contrast, one of the lowest extents of exposure to PCRs' visiting and detailing was shown in Saudi Arabia by Alosaimi, et al. (2013b) who found that only 41% of participants have encountered PCRs at least once in their life.

Regarding the frequency of PCRs' visiting, Wazana (2000) reviewed 16 studies from the international literature and reported that on average, physicians meet with PCRs 4 times per month. This result is similar to that shown in Germany by Lieb and Brandtönies (2010) who estimated that all physicians are visited by PCRs at least once a week. At the same time, these results are higher than that suggested by Lexchin (2009) who found that on average, physicians are visited about once every 2 weeks. In Libya, 50% of physicians meet with PCRs at least once a month, and 20% at least once a week (Alssageer & Kowalski, 2012). One of the highest frequencies was shown in Japan by Saito, et al. (2010) who found that on average, physicians meet with PCRs 7 times per month.

The market insights confirm that PCRs represent the first marketing practices adopted by pharmaceutical companies in the Gaza Strip, as all pharmaceutical companies are employing staff of PCRs who visit physicians regularly. The influx of PCRs to healthcare settings and physicians' office is attracting attention. Balawi (2013) confirmed this and added that even drug wholesalers who haven't official exclusive agency also employed PCRs to promote their drugs. Masroujah (2014) indicated that the number of PCRs is enough to cover the market size in the Gaza Strip but there are few qualified and skilled PCRs in the market.

2.7.3.2 Exposure to Promotional Printed Materials Distributing

The literature which seeks to find the exposure of physicians to promotional printed materials distributing is rare, and suggests that the exposure to promotional printed materials is high but at less extent than PCRs' visiting and detailing. In Libya, 79 % of

physicians are exposed to promotional printed materials (Alssageer & Kowalski, 2012). In Saudi Arabia, Zaki (2014) found that 62% of physicians receive such materials.

In the Gaza Strip, the researcher's insights reveal a reduction in the usage of promotional printed materials by pharmaceutical companies in last few years. This confirmed by Balawi (2013) who indicated that there is a tendency of physicians to rely on new technology and there is declining in the use of printed materials. This was also confirmed by Zemili (2014) who indicated that pharmaceutical companies in the Gaza Strip tend to rely on other practices like drugs' presentations organizing and conferences sponsoring. Shurrab (2014) indicated the most commonly used type of promotional printed materials are brochures about promoted drug and some of foreign companies started to use digital tools for detailing rather than printed materials.

2.7.3.3 Exposure to Free Medical Samples Distributing

The exposure of physicians to free medical samples distributing was extensively studied and reveals high extents. In the United States, Campbell, et al. (2007) found that free medical sample is among most common interactions between physicians and pharmaceutical companies, in which 78% of physicians reported exposure to free medical samples. In Japan, Saito, et al. (2010) found that 85% of physicians receive free medical samples. In Libya, 69% of physicians reported that they receive drug samples (Alssageer & Kowalski, 2012). One study in Saudi Arabia shows the lowest extent of exposure to free medical samples by 42% of physicians (Zaki, 2014).

In the Gaza Strip, market insights by the researcher strongly confirm the finding of CSD (2012) which stated that free medical samples are fundamental promotional tool in developing countries, especially for local generic companies. This is confirmed by Balawi (2013) indicated that free medical samples are widely used among pharmaceutical companies and there is an overuse of this practice in the market, where the local companies strongly rely on this practice as compared with foreign companies. Shurrab (2014) confirmed this and indicated that local companies distribute a huge amount of free medical samples for wide spectrum of physicians as compared with foreign companies and there are some foreign companies completely ban the distribution of free medical samples (Shurrab, 2014).

In addition, Masroujah (2014) who indicated that the free medical samples become as the first practices in term of expenditure among all practices used by pharmaceutical companies specially for local companies. In the beginning of product life it may account for 5-7% of its sales and some time it may reach 10%, then gradually decrease to 3% and become 0% for mature products. Mehadi (2014) confirmed that the formal regulation to control the distribution of samples is partially implemented and companies may distribute full package - not reduced -, free medical samples are not differentiated from original packs by stamping – not for sales- and therefore free medical samples may be sold to pharmacies and patients. He added that the replacement or selling of free medical samples to

pharmacists becomes a custom of this practice. This makes the implementation of effective of free medical samples distributing is essential.

2.7.3.4 Exposure to Gifts Giving

The literature shows that the extent of exposure of physicians to gifts giving is common. In Japan, Saito, et al. (2010) found that 96% of physicians receive stationery gifts. In Libya, 79% of physicians reported that they receive simple gifts (Alssageer & Kowalski, 2012). In Germany, Lieb and Brandtönies (2010) found that items of office stationery are among the most commonly received gifts while in Nigeria, Ijoma, et al. (2010) found that stickers and personal souvenirs are among the most commonly employed marketing practices.

Regarding the frequency of exposure to gifts, one study shows a rate of 6 gifts per year (Wazana, 2000), while another study shows much higher average by once to twice per month (Saito, et al., 2010).

The researcher's insights from local markets confirm that the use of gifts giving as a marketing practice by pharmaceutical companies in the Gaza Strip is not common as PCRs' visiting, free medical samples distributing. This confirmed by Shurrab (2014) who indicated that pharmaceutical companies use less gifts as compared with free medical samples. These gifts are simple branded gifts such as pens, bags, notepads, mugs, stethoscopes and anatomical models, which are distributed for physicians as reminding materials, but they may or may not be related to medicine practice and patients benefits (Masroujah, 2014).

2.7.3.5 Exposure to Non-Promotional Events Sponsoring

The literature shows that the exposure of physicians to non-promotional events sponsoring is high. In the United States, Campbell, et al. (2007) found that most of the interaction between physicians and pharmaceutical companies is receiving food in the workplace by 83% of physicians during CME lectures. In Japan, Saito, et al. (2010) show that 80% of physicians participate in industry sponsored CME lectures at the workplace.

In Pakistan, Masood, et al. (2012) show that 67% of the physicians attend educational events organized by professional organizations of the medical community and sponsored by the pharmaceutical companies and they were the largest sponsor source of physicians attend educational events. In the United Kingdom, Rutledge, et al. (2003) found that the pharmaceutical companies funded approximately half of the meetings and conferences attended by physicians, less than 20% of the physicians funded themselves and one-third of the meetings would not have been attended if funding from the pharmaceutical companies had not been available.

Regarding to the frequency of exposure to such non-promotional events, a survey by Lexchin, (2009) shows that physicians, on average, participated in 1.9 company-sponsored CME lecture, in the previous two years.

Locally, the researcher's observations confirm that pharmaceutical companies sponsoring of non-promotional events are obvious, as pharmaceutical companies sponsor a lot of local scientific conferences and scientific days in the Gaza Strip. This was confirmed by Surrab (2014) who indicated that many MOH hospitals arrange lectures inside the hospitals or local scientific conferences at external venue, and they rely on pharmaceutical companies for sponsoring these activities. The hospitals compete among each other in arranging such activities, where some local scientific conferences become characteristic sign of some hospitals like Cardiovascular Conference of European Gaza Hospital and Internal Medicine Conference of Nasser Hospital. One of the observations is that some pharmaceutical companies strongly sponsor such events while others absolutely do not sponsor them.

2.7.3.6 Exposure to Promotional Events Organizing

The literature shows that physicians are moderately exposed to promotional events organizing, with extents lower than previous practices. In Japan, Saito, et al. (2010) found that 49% of physicians participate in companies meeting outside workplace and in Saudi Arabia, Alosaimi, et al. (2013a) found that 37.8% of physicians accept free meals outside work places. One of the least extents of exposure was shown in Pakistan by Masood, et al. (2012) who found that only 15.8% of physicians attend the promotional events, which are organized by pharmaceutical companies independently, without involvement of professional organizations.

Regarding to the frequency of exposure to such promotional events, one study found that physicians on average participated in 5.2 promotional events in the previous two years (Lexchin, 2009).

Locally, the market insights by the researcher confirm that many pharmaceutical companies organize promotional events. The value of such events ranges from rich scientific contents (at one extreme) to generous hospitality (at the other extreme), with many positions in between. This depends on the company itself as confirmed by Mehadi (2014). Shurrab (2014) indicated that few companies use speaker to introduce presentation about their drug, while mostly the PCRs who introduce such presentations, and the hospitality of such meetings is satisfactory.

2.7.3.7 Exposure to Foreign Conferences Travel Sponsoring

One study in Saudi Arabia by Zaki (2014) found that 10.2% of physicians are exposed to such practices and sponsored to conferences by paying registration fees of the

foreign conference. This is the only study which seeks to find the exposure of physicians to foreign conferences travel sponsoring and shows low exposure to this practice.

Locally, the researcher's insights confirm that this practice is not commonly used by pharmaceutical companies and it seems to be exclusively used to target few key opinion leaders. Balawi (2013) indicated that the siege is one of the major causes of this. Mehadi (2014) and Balawi (2013) agreed that pharmaceutical companies select few physicians who represent key market leaders to sponsor them to foreign conferences. Masrouji (2014) justify that this sponsoring for the leaders aimed to improve the image of Palestine and Palestinian physicians at international and regional levels by exchange experience. Balawi (2013) and Shurrab (2014) agreed that foreign companies, rather than local companies, adopt this practice. This contradicts with Zemili (2014), who confirmed that local and foreign companies sponsor some physicians to travel to foreign conferences.

2.7.3.8 Exposure to Scientific Studies Funding

The literature confirms that the extent and frequency of the exposure of physicians to scientific studies funding do not appear to be widespread. Regarding the extent of exposure, Ashar, et al. (2004) confirmed these findings and found that just one third of physicians engage in clinical trial funded by pharmaceutical companies. Regarding to the frequency of exposure, a survey by Lexchin (2009) found that the physicians had participated in company- sponsored drug trials about 1 in the previous two years.

Locally, the researcher's insights confirm that this practice is less commonly used by pharmaceutical companies in the Gaza Strip. This was confirmed by Masroujah (2014) and Zemili (2014) who asserted that pharmaceutical companies rarely fund scientific studies in the Gaza Strip. They agreed that all local companies conduct their studies outside where advanced technology is needed, and they do not conduct any PMS studies in the Gaza Strip. In addition they confirmed that local pharmaceutical companies some time conduct studies called "Community oriented Medical Research". Balawi (2013) explained this rareness by the logistical issues may confront the conducting of such scientific studies, and what are conducting by local companies, do not exceed market research to determine market size and trends.

To the researcher's best of knowledge, Novartis Pharmaceutical is the only foreign pharmaceutical company that conducted 5 scientific studies in Palestine including the Gaza Strip. Four of these studies were PMS studies and one was a multinational, multicenter, prospective, observational cohort study. This study is called Effectiveness of Diabetes control with vildaGliptin and vildagliptin/mEtformin (EDGE) Study which represents one of the largest diabetes studies among the world.

2.7.3.9 Exposure to Honoraria Paying

The literature shows some discrepancies about the extent of exposure of physicians to honoraria paying. Despite these discrepancies, there is a consensus among the literature that the exposure to honoraria is a moderate, not widespread and lower than PCRs' visiting, free medical samples distributing and gifts giving.

Morgan, et al. (2006) found that 53% of physicians accept a well- paid consultant ship from pharmaceutical companies, while Campbell, et al. (2007) found that 35% of the physicians receive reimbursement for costs associated with professional meetings and 28% of them receive payments for consulting, giving lectures, or enrolling patients in trials. Birkhahn, et al. (2010) reported that 23% of respondents receive research grants from industry, while 34% receive fee- for- service money.

These findings match with Arab counties studies. For example, in Libya, Alssageer and Kowalski (2012) found that reimbursements were reported by 33% of respondents and in Saudi Arabia, Alosaimi, et al. (2013a) found that 33.3% of physicians received financial support to attend educational activities.

Locally, the researcher's observations confirm that it is rare for a pharmaceutical company in the Gaza Strip to pay honorarium for a physician. This was confirmed by Shurrab (2014) and Zemili (2014) who agreed that this practice is almost not used by pharmaceutical in the Gaza Strip, but it is a custom in modern markets.

2.7.3.10 Exposure to DTC Advertising

Few studies seek to find the exposure of physicians to DTC advertising. In a survey by Aikin, et al. (2004), found that 92% of physicians reported that a patient had asked about an advertised drug. Another survey by Rosenthal, et al. (2003) indicated that one- third of American adults had discussed a DTC advertising medication with their physician, and 1 in 10 had received a prescription in response to their inquiry.

Locally, the researcher's observations confirm that the use of DTC advertising is less common among pharmaceutical companies in the Gaza Strip. This was confirmed by Zemili (2014) and Masroujah (2014) who confirmed that pharmaceutical companies rarely use public media as Radio, TV, Magazine, Billboard, etc. for drug advertising. The use of DTC advertising by pharmaceutical companies is restricted to OTC drugs by some posters and flayer which may target patients at pharmacies and physicians' clinics. In contradictory view, Balawi (2013) indicated that there are no distinct OTC and POM lists in the Gaza Strip. Kishawi (2014) confirmed that all drugs in the Gaza Strip are considered as OTC dugs, and the DTC advertising is commonly used to target patients at pharmacies and physicians' clinics especially gynecology clinics. The information of DTC advertising is always misleading and incomplete. Mehadi (2014) indicated that DTC advertising policy exists but it is not effectively implemented and monitored.

2.7.4 Exposure by Companies Types

None of previous studies seeks to find the exposure of physicians by companies types, but the researcher introduces this factors based on local insights and Siddiqi, et al. (2011) study that sought for the attitude by companies' types.

2.7.5 Differences in Exposure due to Physicians' Characteristics

The literature suggests that the exposure of physicians to the marketing practices of pharmaceutical companies varies due to physicians' characteristics including personal, professional and practice setting.

2.7.5.1 Difference in Exposure due to Personal Characteristics

The literature shows that there are significant differences among physicians in their exposure to marketing practices due to their personal characteristics such as gender, age, income and income satisfaction.

Among these studies are, Campbell, et al. (2007) who found that male gender is associated with higher exposure to marketing practices. This contradicts with Saito, et al. (2010) who found that the exposure of female gender is higher.

Alosaimi, et al. (2013a) in Saudi Arabia found that the gender and age characteristics are significantly associated with exposure to marketing practice. In contradicting finding, Anderson, et al. (2009) found that physicians' gender and age are not associated with such differences in the exposure.

Al-Hamdi, et al. (2013), in their qualitative study, indicated that physicians' low income is considered a contributing factor for a need to enhance their income through participation in pharmaceutical marketing practices, and pharmaceutical companies take this opportunity to tempt the physicians.

Ashar, et al. (2004) introduced a dangerous finding that there are differences among physicians in their exposure due to income. They found that physicians who are dissatisfied with their income have greater participation than those who are satisfied with their income. Also they indicated that a substantial number of physicians engage in some pharmaceutical practices in an effort to supplement their incomes.

2.7.5.2 Difference in Exposure due to Professional Characteristics

The literature shows that there are significant differences among physicians in their exposure to marketing practices due to some of professional characteristics.

Specialty was one of the main professional characteristics associated with such differences in the exposure. Campbell, et al. (2007) study, one of the key studies in this aspect, shows that the exposure of physicians to marketing practices in the United States varies due to physicians' specialties, where family practitioners reported the highest average number of meetings with PCRs (16 meetings per month), followed by internists (10 per month), cardiologists (9 per month), pediatricians (8 per month), surgeons (4 per month), and anesthesiologists (2 per month). In contrast, cardiologists are more than twice as likely as family practitioners to receive payments for professional services, and are significantly more likely to receive payments than were pediatricians, anesthesiologists, or surgeons.

In Japan, Saito, et al. (2010) found that the extent of exposure varies due to certain physician characteristics such as specialty. They found that Internists meet with PCRs most frequently (10 times per month), followed by general surgeons and orthopedic surgeons (8 times per month), pediatricians and ophthalmologists (7 times per month), and obstetrician-gynecologists (5 times per month). Internists, pediatricians, and ophthalmologists are more likely than psychiatrists to receive drug samples.

Other characteristic brought by Saito et al., (2010) are physicians in practice 21 years or more vs. 20 years or less. This confirmed by Alssageer and Kowalski (2012) in Libya, who found that years of practicing medicine and being a specialist (other than an anesthesiologists) are significantly associated with meeting with PCRs.

Other factor introduced by Campbell, et al. (2007) and associated with the exposure to marketing practice is participating in committees such as training of physicians or developing of clinical guidelines. Analysis done by Ashar, et al. (2004) shows differences among specialists versus generalist physicians.

2.7.5.3 Difference in Exposure due to Practice Setting Characteristics

The literature shows that there are significant differences among physicians in their exposure to marketing practices due to some of their practice setting characteristics.

In Japan, Saito, et al. (2010) found that the extent of exposure in the marketing practices varies among hospitals. Campbell, et al. (2007) study shows that physicians in solo, two- person, or group practices are significantly more likely to have all types of interaction with industry than were physicians in hospitals.

In Saudi Arabia, Alosaimi, et al. (2013a) found that physicians who are working in a private practice alone or in both private and public sectors are more likely to receive printed materials, simple gifts or free medical samples than physicians who are working in the public sector only.

Anderson, et al. (2009) found that physicians in private are more likely than those in university hospitals to interact with PCRs, but community hospitals physicians tend to fall

in the middle. Analysis done by Ashar, et al. (2004) shows differences among physicians in group versus physicians in solo practice.

2.7.6 Comments on Exposure Pervious Studies

It can be concluded from previous literature that

- Nearly all physicians are exposed to marketing practices and maintain some interaction with pharmaceutical companies; this interaction begins during medical school, and continues through the physician career.
- Physicians commonly see PCRs, receive free medical samples, gifts, and promotional printed materials, participate in educational events sponsored by pharmaceutical marketing (non-promotional) and encountered by DTC advertising.
- Physicians moderately participate in promotional events and receive honoraria from the pharmaceutical companies.
- Few numbers of physicians participate in scientific studies, and travel to foreign conferences.
- No study seeks to find the exposure of physicians by companies' types.
- Exposure of physicians to the marketing practices of pharmaceutical companies varies due to some physicians' characteristics including personal (gender, age, income and income satisfaction), professional (specialty, years of practicing medicine, Job rank and participating in committees) and practice setting (hospitals, having a private work and working in NGOs).

2.8 Attitude toward Marketing practices

The *attitude of physicians* is the second dimension of the interaction between physicians and pharmaceutical companies. In this section, the researcher presents the literature which discusses the attitude of physicians toward the marketing practices of pharmaceutical companies and the differences in the attitudes due to physicians' characteristics.

2.8.1 Definition of Attitude

Finding out the attitude of physicians toward the marketing practices of pharmaceutical companies is a key to understanding the interaction between physicians and pharmaceutical companies. This understanding helps the decision makers to develop relevant guidelines to establish mutually beneficial relationship in favour of patients.

Since 1935, Allport defined the attitude as *a mental or neural state of readiness, organized through experience, exerting a directive or dynamic influence on the individual's response to all objects and situations to which it is related" (p. 44).* The business dictionary defines attitude in this manner: *A predisposition or a tendency to respond positively or negatively toward a certain idea, object, person, or situation. S*imply, attitude is a mindset

or a tendency to act in a particular way due to both an individual's experience and temperament (Pickens, 2005, P. 44).

Attitudes can be very difficult to change, as attitudes are a complex combination of things that including: Personality, beliefs, values, behaviours, and motivations. The tri-component model of attitude suggests that attitudes include feelings, thoughts, and actions. Attitudes also provide us with internal cognitions or beliefs and thoughts about people and objects (Pickens, 2005)

Through experience and learning, people acquire attitudes, which in turn influence their behaviours. They lead people to behave in a consistent way toward similar objects. Therefore, attitudes help us define how to see situations, as well as define how to behave toward the situation or object. When we refer to a person's attitude, we try to explain his/her behaviour (Kotler & Keller 2012).

People have attitudes toward almost all things including: religion, politics, clothes, music, food, etc. There are five types of attitude toward objects which are enthusiastic, positive, indifferent, negative and hostile. Attitudes put people into a frame of mind: liking or disliking an object, moving toward or away from it (Kotler & Keller 2012).Although the feeling and beliefs components of the attitudes are internal to a person, attitude can be viewed from his/her resulting behaviour (Pickens, 2005).

To measure attitude survey methods are used, which tend to provide estimate of how many people agree or disagree to certain statements, but more complex studies, which attempt to explore other factors are associated with different attitudes and try to find out what kinds of people have different opinions are more useful. Qualitative studies have a key role in this aspect (WHO, 2000).

2.8.2 Attitude toward Overall Marketing Practices

There is mounting of studies that seek to find the attitude of physicians toward the marketing practices of pharmaceutical companies. Most of these studies revealed that physicians have positive attitude toward overall marketing practices in general.

Korenstein, et al. (2010) found that attitudes toward industry are generally positive and physicians continue to hold positive attitudes toward marketing practices of the pharmaceutical companies. Nakayama (2010) found that physicians do not feel that their interaction with pharmaceutical companies in any way compromise their integrity as doctors.

In developing countries, similar results were found. Ijoma, et al. (2010) found that in Nigeria 87.5% appreciate the benefits of marketing strategies and in Ghana Appiah-Kubi (2011) found that physicians have positive attitude toward the marketing adopted by

pharmaceutical companies. Al-Areefi, et al., (2013) in Yemen, found that the majority of the physicians have positive attitude toward pharmaceutical companies.

In addition to practicing physicians, there are extensive studies evaluate the attitudes of medical trainees and students, which show that the attitudes of trainees and students toward the marketing practices are variable and occasionally contradictory (Misra, et al., 2010; Randall, et al., 2005; Zipkin and Steinman, 2005). These studies of medical trainees and student help the researcher in establishing conceptual framework, methodology and interpreting of the result of this study.

2.8.3 Attitudes toward Different Marketing Practices Types

In the following subsections, the researcher presents the previous studies which discuss the attitudes of physicians toward each type of the marketing practice separately.

2.8.3.1 Attitude toward PCRs' Visiting and Detailing

The literature some discrepancies about the attitudes of physicians toward PCRs' visiting and detailing; old literature indicates that physicians have negative or neutral attitudes, while many new literature indicates that physicians generally have positive attitudes toward PCRs' visiting and detailing.

Among the studies which show that physician' attitudes toward PCRs' visiting and detailing are mostly negative is McKinney, et al. (1990) study which shows that physicians have somewhat negative attitudes toward PCR's detailing activities. Poirier, et al. (1994) found that only 24% of the physicians are satisfied with detailing and 48% are dissatisfied. Strang, et al. (1996) surveyed Canadian general practitioners and specialists on their attitudes toward PCRs, and found that 92% of the physicians reported that drug promotion is a major goal of PCRs efforts, while only 37% reported that physician education is a major goal of PCRs' efforts.

Among the studies that had documented neutral physician attitudes toward PCR's detailing and visiting is Thomson, et al. (1994) study which shows that the attitudes of physicians toward PCRs is neutral based on a survey of general practitioners in New Zealand. Also, Andaleeb and Tallman's (1996) found that physicians have neutral attitude toward PCRs, they have friendly relationships with PCRs and do not view marketing practices as manipulative, nor PCRs are perceived negatively. At the same time they trust PCRs but do not consider them a vital part of their practice. Manchanda, et al. in 2005, draw results from the literature and concluded that physicians have negative (at one extreme) to neutral (at the other) attitudes toward PCRs but this contradicts clearly with the new literature.

Many new studies documented that most physicians have positive attitudes toward PCRs' visiting and detailing, and they do not view relationships with pharmaceutical

companies as ethically problematic. Brett, et al. (2003) found that physicians generally view interactions with PCRs positively and educational and professionally appropriate. Korenstein, et al. (2010) found that attitude toward PCRs are generally positive. Nakayama (2010) found that physicians do not feel that their relationships with PCRs in any way compromise their integrity as physicians. Al-Areefi, et al. (2013) in Yemen found that the majority of the physicians emphasized that the meeting with PCRs provides educational and scientific benefits.

In the Gaza Strip, Mehadi (2014) considered that the behaviours of PCRs are accepted and within the ethical boundaries, but there are clear differences in the training and skilling of PCRs among pharmaceutical companies. Shurrab (2014) indicated that there are clear differences in the knowledge and skills of PCRs of foreign as compared with local companies; foreign companies rely on continuous and updated training for improving knowledge and skills of their PCRs while the local companies rely on accumulated experiences and personal relationships.

2.8.3.2 Attitude toward Promotional Printed Materials Distributing

Regarding the attitude of physicians toward promotional printed materials distributing, no previous studies specifically seek to find the attitude toward promotional printed materials themselves, but most of studies seek to explore the attitude toward the information provided through such materials and other marketing practices as detailing and promotional events, which will be presented later in this section.

2.8.3.3 Attitude toward Free Medical Samples Distributing

There is a clear consensus among the literature that the attitudes of physicians toward free medical samples distributing are positive. Since the free medical samples are ultimately used by patients, the acceptance of it may be regarded as more ethically acceptable, as compared to other marketing practices. Physicians who dispense free medical samples may believe they are helping patients, rather than believe that PCRs are attempting to influence their prescribing behaviour (Wazana, 2000).

Morgan, et al. (2006) found that it is largely indicated by 92% of physicians that accepting free medical samples is considered appropriate more often than any other item. In similar results, Sharma, et al. (2010) found that free medical samples are considered as unethical by only 5% of respondents. A Turkish study reported that 84% of physicians believe that free medical samples are extremely useful (Spiller & Wymer, 2001). Alosaimi, et al. (2013b) found that the most common accepted materials from pharmaceutical companies are free medical samples.

2.8.3.4 Attitude toward Gifts Giving

The literature which seeks to find the attitude of physicians toward gifts giving are extensive and revealed a big controversial. For examples, most physicians generally approve gifts and believe accepting them is appropriate because they learn them about new products, but at the same time, physicians do not want gift relationships made public (Chimonas, et al., 2007).

In Ghana, Appiah-Kubi, (2011) found that 91% of physicians responded that they consider the gifts they received from PCRs as appropriate. Alssageer and Kowalski (2013) found that 75% of physicians are not against the gifts giving, but are more comfortable if gifts are cheap and have educational value. In Saudi Arabia, Alosaimi, et al. (2013a) found that most of the participants (80.1%) admit acceptance of pharmaceutical gifts of any type while Alosaimi, et al. (2013b), in another study, found that only 34% of participants approve gifts presented to them by PCRs.

The researcher observes that large part of this controversy in the attitudes toward gifts may be related to the types of gifts used by pharmaceutical companies. Morgan, et al. (2006) found that 75% of respondents approve an anatomical model from PCRs. Sharma, et al. (2010) found that the materials which considered unethical were gifts such as household items by (72.5%), watches, shirts and bags by (68.75%), funding for a non-academic event by (65%), travel fare or tickets by (61.25%), pads and pens by (8.75%). The most common gifts accepted were stationary items such as pens and notepads (52.9%).

In the Gaza Strip, Balawi (2013) considered that the major aims of gifting are to enhance the prescription of drug and to increase the loyalty of physicians to the company. Gifting, in general, do not relate to patients' benefit or medicine practice. There is a section in Drug Promotion System related to gifting guidelines, but the implementation of these guidelines is ineffective. At the same time, there is no ethical code explains what are allowed and not allowed in gifts giving in Palestine. Kishawi (2014) pointed that the only inhibitor for illegal gifts comes from the inside of person.

2.8.3.5 Attitude toward Non-Promotional Events Sponsoring

Since a long time, the evidence revealed that the attitude of physicians toward non-promotional events sponsoring is positive. McKinney, et al. (1990) found that physicians acknowledge pharmaceutical companies support for conferences and CME. Physicians rank the topic and then speaker as the most important reasons for attending, while CME points, venue and the sponsor are ranked the lowest. Carney, et al., (2001) found that the majority of physicians support a greater role for industry in funding CME. Nakayama (2010) confirmed these findings by showing that physicians, in general, are not too concerned about the impact of free food in non-promotional events.

In the Gaza Strip, Balawi (2013) indicated that the scientific content, the organization, the continuity, and the exerted efforts represent a great success for such conferences in the Gaza Strip and substantial part of this success returns for pharmaceutical companies. Unfortunately, no regional or international conferences were conducted in the Gaza Strip, this mainly due to the political siege. Mehadi (2014) indicated that this practice is the most ethical practice among all marketing practices in the Gaza Strip. Kishawi (2014) indicated that such conferences and scientific days have to be unified and coordinated in major programs.

2.8.3.6 Attitude toward Promotional Events Organizing

Few studies seek to find the attitude of physicians toward promotional events organizing but, show consistent positive attitude of physicians toward promotional events. Morgan, et al. (2006) found that 77% of respondents approve an informational lunch from PCRs. Carney, et al. (2001) found that industry meetings are judged as good to excellent by 79% of physicians.

Locally, Zemili (2014) indicated that these meetings have good scientific value, while this contradicted by Balawi (2013) who considered the main objective of such meetings is to promote the drugs rather than to convey evidence based science. Balawi (2013) added that the hospitality which accompanied such meetings start to replace the scientific objective, especially at the absence of the regulations that ensure such promotional events to be truthful and not misleading.

2.8.3.7 Attitude toward Foreign Conferences Travel Sponsoring

To the best knowledge of the researcher, no previous studies seek to find the attitude of physicians toward the foreign conferences travel sponsoring by pharmaceutical companies.

In the Gaza Strip, Kishawi (2014) indicated that this practice strongly affects the practice of medicine and there is a need to implement a procedure to monitor this practice. Balawi (2013) indicated that there is no role for MOH in the selection of physicians for attending such foreign conference and urged MOH to develop specific criteria for this.

2.8.3.8 Attitude toward Scientific Studies Funding

The literature reveals contradictory attitudes of physicians toward scientific studies funding. Many physicians regard pharmaceutical companies as an important source of funding for clinical trials, but they also have concerns about the accepting money from this source, because company funding of clinical trials may affect the quality of the trials and the types of research that physicians undertake (Lexchin, 2009). Alosaimi, et al. (2013a) found that only 5.8% approve funding studies.

In the Gaza Strip, Balawi (2013) confirmed that MOH has an active role in controlling this practice and other medical research through the department of Health Research in the General Directorate of Human Development. Also, there are clear procedures and approvals to conduct any medical research.

2.8.3.9 Attitude toward Honoraria Paying

Since a long time, evidence revealed that physicians have positive attitude toward honoraria paying. McKinney, et al. (1990) found that most physicians acknowledge pharmaceutical companies financial support for speakers. Reimbursements and honoraria are acceptable, in exchange of services provided from physicians to pharmaceutical companies, especially for those physicians who have expertise in academic settings, clinical care, research, and teaching (Jibson, 2007). Sharma, et al. (2010) found that physicians accept honoraria for speaking; while accepting cash from pharmaceutical companies for prescribing their drugs is considered as unethical by 87.5% of respondents.

In the Gaza Strip, Balawi (2013) confirmed that there are no formal regulations to monitor honoraria paying. Kishawi (2014) indicated that no one can confirm or exclude the use of illegal payments by pharmaceutical companies to physicians. In contrast, Mehadi (2014) confirmed that in the absence of the effective regulations, the market may not be free from illegal payments- by direct or indirect ways- which connected to the prescription of promoted drugs.

2.8.3.10 Attitude toward DTC Advertising

It is not surprising to find that the literature shows that physicians have generally negative attitudes toward DTC advertising. Robinson, et al. (2004) found that most of physicians tend to view DTC advertising negatively and indicate that such advertisements rarely provide enough information on cost (99%), alternative treatment options (95%), or adverse effects (55%). Most also believe that DTC advertising affect the interactions with patients by lengthening clinical encounters (56%), leading to patient requests for specific medications (81%), and changing patient expectations of physicians' prescribing practices (67%).

Reast and Carson (2000) found that physicians in the United Kingdom feel that DTC advertising is unethical, physicians' perceptions of the impact of DTC advertising on physician–patient relationships indicate that physicians are concerned about the relationship be damaged, and specifically that DTC advertising will undermine their role as 'health specialists'. Consistent result was shown in Jordan by Abo-Rumman (2012) who found that all DTC advertising items have proven to negatively influence the physician- patient relationship, namely, satisfaction, trust, and commitment.

2.8.4 Attitude toward Information Provided through Marketing Practices

It is well known that the primary function of PCRs is the detailing and the main role of detailing is to provide medical information about marketed drug to the physicians, this information ranges from awareness building to detailed technical information. Therefore, a key component of the attitude toward the marketing practices, that is a crucial to be evaluated, is the attitude of physicians toward the information provided through marketing practices such as PCRs' detailing, promotional printed materials and promotional events.

The attitudes of the physicians toward the information provided by pharmaceutical companies through the marketing practices have often been investigated in many studies. These studies concentrate on the attitude of physicians toward two aspects of this information; which are the importance and credibility of information provided through these marketing practices.

2.8.4.1 Attitude toward the Importance of Information

Regarding the importance of information provided through marketing practices, the literature shows that physicians have positive attitude toward this information, the majority of physicians relies on and rates it as an important source of information.

For example, in the United States, Anderson, et al. (2009) found that 76% of participants see PCRs' information as at least somewhat valuable, 29% use this information often or almost always when deciding whether to prescribe a new drug and 44% use them sometimes. Another study shows that three quarters of 2,608 practicing physicians found information provided by PCRs "very useful" (15%) or "somewhat useful" (59%) (Kaiser Family Foundation, 2006). In Canada, 66% of physicians are dependent on PCRs for drug information (Smith, 2002). British study reported that PCRs' promotional printed material are the most frequently used information source on drugs for general practitioners (Prosser, et al., 2003). In Turkey, Vancelik, et al. (2007) found that 74% of the general practitioners reported that the most frequent resource used in case of any problems in prescribing process is drug guides of pharmaceutical companies.

Higher percentages were shown in the Arab countries; in Libya, Alssageer and Kowalski (2013) found that 94% of physicians reported that the major benefit of PCRs' visits is receiving new information about drugs, in Saudi Arabia, Zaki (2014) found that 90% of physicians perceive that information from pharmaceutical companies have educational value. The researcher suggests that the information from pharmaceutical companies has higher role in the Arab countries due to the lack of CME programs in healthcare systems, which is more common in the developing countries than the developed countries; thus, the pharmaceutical companies' information influence will be greater.

2.8.4.2 Attitude toward the Credibility of Information

Despite that the literature confirms the importance and the dependency of the majority of physicians on pharmaceutical companies' information, Literature shows that the credibility of information provided by pharmaceutical companies through marketing practices is questionable. One study shows that American physicians responding to a survey give PCR's information low ratings for extensiveness of knowledge and credibility and physicians also reports that detailing provides biased information and can compromise objectivity (McKinney, et al., 1990). In similar study, physicians do not have a very high opinion of the information from detailers or of company-sponsored events (Lexchin, 2009).

In Germany, 49% of physicians stated that they only occasionally, rarely, or never receive adequate information from PCRs; the physicians generally do not believe that PCR visits and drug company-sponsored educational events deliver objective information, in contrast to medical texts and non-sponsored educational events (Lieb & Brandtönies, 2010). This matches with Zaki (2014) in Saudi Arabia who found that physicians mostly feel that pharmaceutical companies' information and talks are biased in favour of the company's products.

In the Gaza Strip, Mehadi (2014) mentioned that despite the presence of department in MOH for the pharmaceutical advertising who responsible for the clearance and monitoring of the promotional printed materials, any pharmaceutical companies can use any promotional claims; this represent a clear gap have to be filled. Kishawi (2014) added that most of promotional printed materials have incomplete and misleading information that maximize the advantage of promoted drug with no scientific evidence; these materials are unbalanced, not updated and have no references.

2.8.5 Attitude by Companies Types

There is limited literature discusses the attitude of physicians by companies types with contradictory results. In Pakistan, Siddiqi, et al. (2011) sub-categorized pharmaceutical companies into two main categories, that are multinational companies and local companies and found that there is no difference exits. In contrast, one study found that the attitude regarding generic companies is poor (Hassali, et al., 2007).

2.8.6 Differences in Attitudes due to Physicians' Characteristics

The literature suggests that attitudes of physicians toward marketing practices of pharmaceutical companies vary due to physicians' characteristics including personal, professional and practice setting.

2.8.6.1 Differences in Attitudes due to Personal Characteristics

The literature suggests that there are significant differences among physicians in their attitudes toward the marking practices due to some personal characteristics. Anderson, et al. (2009) found that gender and age and are not associated with any significant differences in attitudes to the marketing practices, Hamdi, et al. (2012) found that the physicians' low income is a suitable environment for unethical pharmaceutical promotion engagement. Physicians benefit from this situation by demanding pharmaceutical companies to satisfy their needs, either scientifically or personally. This suggests that income may be a contributing factor to the attitude toward pharmaceutical marketing practices.

2.8.6.2 Differences in Attitudes due to Professional Characteristics

The literature found that there are significant differences among physicians in their attitudes toward the marking practices due to some professional characteristics. The specialty was one of the main characteristics. Korenstein, et al. (2010) found that surgeons have more positive attitude toward marketing practices; they are significantly more likely than their non-surgical peers to rate gifts from pharmaceutical companies, such as meals, travel expenses, and payments for attending lectures, as appropriate. Surgeons are more likely to approve of industry funding of residency programs than non-surgeons (75.8% vs 60.8%), In contrast, pediatricians have the least favourable attitude toward pharmaceutical companies. Finally, they came to general conclusion that physicians continue to have positive attitudes toward marketing practices of the pharmaceutical companies, and the degree of positivity of attitude differs among specialties.

Alosaimi, et al., (2013a), reported no significant differences in the overall gift acceptance by job rank (consultant, specialist, and resident) but significant differences in type-specific gift. Ashar, et al., (2004) found differences among specialists. Even for DTC advertising, despite the opposition of the majority of physicians to DTC advertising, the results of Reast and Carson (2000) study indicates that general practitioners are more concerned than specialists with the ethics of DTC advertising and are slightly more inclined to oppose its introduction.

Lea, et al. (2010) found that there are considerable differences in the attitudes among universities, suggesting that medical students are prone to influence from university lecturers. This finding encourages the researcher to introduce the country of graduation as one of independent variable that may associate with exposure and attitude. In Saudi Arabia, Zaki (2014) found that the experience level as reflected by the years of practicing medicine was significantly associated with the attitude toward marketing practices with wider acceptance among young professionals with 1 to 5 years of experience.

2.8.6.3 Differences in Attitudes due to Practice Setting Characteristics

The literature suggests that there are significant differences among physicians in their attitudes toward the marking practices due to some practice setting characteristics. Anderson, et al. (2009) found that physicians in private practice are more likely than those in university hospitals to value, and rely on PCRs but community hospital physicians tend to fall in the middle. In contrast in Pakistan, Siddiqi, et al. (2011) sub- categorized physicians due to their premises of practice as government institutions and private institutions, and found no significant difference between government and private physicians in their attitudes.

Ashar, et al. (2004) found differences among physicians in group versus physicians in solo practice. Andaleeb and Tallman (1996) found that the attitudes are influenced by the volume of patients treated by the physician, the higher the number of patients, the more favourable are physicians' attitudes toward PCRs. This encourages the researcher to include the number of patients treated and number of prescriptions prescribed by the physician per day in practice setting variables.

2.8.7 Correlation between Exposure and Attitude

The literature revealed that the correlation between the exposure and the attitude of physicians toward the marketing practices of pharmaceutical companies is positive.

Austad, et al. (2011) in their review found that 8 studies reported a correlation between exposure and positive attitudes toward to the marketing practices. Saito, et al. (2010) found that the extent of physicians' exposure to marketing practices is positively correlated with the attitudes. Hodges (2005) demonstrated a positive correlation between the frequency of exposure to PCRs and gifts received and the attitude. Wazana (2000) found that the exposure of physicians to PCRs is associated with the attitude of the benefits of marketing practice.

All these studies revealed a weak positive correlation, as the correlation coefficients ranged from 0.1- 0.3 (Austad, et al., 2011). This suggests that the attitude of physicians toward marketing practices is associated with the exposure but, there other factors may influence the attitude beside the exposure. Some authors tried to find some of these factors and come with the certain findings.

Andaleeb and Tallman (1996) found that the attitudes of physicians are influenced by the information and educational support they receive and selling techniques. The more informational and educational support from pharmaceutical companies, the more favourable are physicians' attitudes toward. Lagace, et al. (2001) found that ethical behaviour and expertise of PCRs positively affect the attitudes especially trust and satisfaction. Manchanda, et al. (2005) found that the manipulative and aggressive selling styles are associated with an unfavourable attitude.

Stark (2014) found that the attitudes of physicians toward the marketing practices of pharmaceutical companies are developed through factors relating to physicians' environment such as physicians' culture, physicians' practice of medicine and how industry promotes its products. A key factors introduced by some authors are the policies that regulates interaction with industry and ethics that govern such interactions (Carmody & Mansfield, 2010). McCormick, et al. (2001) found that policies restricting PCRs access appear to affect future attitudes of physicians. Similar result was shown by Manchanda, et al. (2005) who argued that regulatory policies and ethical codes affect physicians' attitudes toward PCRs.

Another factor is the educational interventions about this interaction, Zipkin and Steinman, (2005) found that educational interventions appear to influence attitudes toward marketing practices. In similar result, Wofford and Ohl (2005) found that a single workshop intervention might influence attitude toward interactions with PCRs. Another similar result was shown by Carroll, et al. (2007) who suggested that well-designed seminars, role playing, and focused curricula can affect attitudes, although it is not entirely clear whether these effects are sustainable over the long- term.

2.8.8 Implicit and Explicit Attitude

2.8.8.1 Definition of Implicit and Explicit Attitudes

The attitude can actually exist at two different levels which are the explicit and implicit attitudes. Explicit Attitude is the attitude that is at the conscious level, is deliberately formed and is easy to self-report. On the other hand, "Implicit Attitude" is the attitude that is at the unconscious level, is involuntarily formed and is typically unknown to us. It is possible and quite common for an explicit attitude and an implicit attitude to contradict each other (Long-Crowell, 2014).

Because explicit attitudes are known to the subject and can be observed by an outsider, self-reporting and observation are the two most common methods to determine explicit attitudes. The biggest advantage for both methods is the ease of collecting the data. However, neither measure is infallible, although self-reporting seems to be mostly accurate, we must assume that each subject is highly self-aware and honest, which may not always be the case.

Measuring implicit attitudes is much more difficult than measuring explicit attitudes (Long-Crowell, 2014). For example through in- depth interviews people express themselves in their own way about what they think about ideas and objects and how they affect them. In order to understand people's perspectives and values more clearly, qualitative studies are needed (WHO, 2000).

2.8.8.2 Qualitative Literature on Attitude

While most of the literature has been described searched for "explicit attitude" there are relatively few qualitative studies that search deeply on the attitude to find out the "Implicit attitude".

Al-Areefi, et al. (2013) did a qualitative study to explore qualitatively the attitudes of physicians toward the interaction with pharmaceutical companies and their reasons for accepting the PCRs' visits by using in-depth interviews. They suggested that the majority of the physicians have positive interactions with pharmaceutical companies and the physicians' main reasons stated for allowing PCRs' visits are the social contacts and mutual benefits they will gain from these representatives. They also emphasize that the meeting with PCRs provides educational and scientific benefits. Most of the physicians believe that they are under marketing pressure to prescribe certain medicines.

Al-Hamdi, et al. (2013) did a qualitative approach of semi-structured interview to gain a better understanding of the status of pharmaceutical marketing in Yemen. The results of their study show that the current state of pharmaceutical promotion is unethical and that there is a mutual responsibility between pharmaceutical companies and physicians in establishing this unhealthy state. All of the offered marketing practices by pharmaceutical companies are in exchange for the physicians' prescriptions, and the participants assure that pharmaceutical companies use unfavourable marketing methods to ensure that their products sell. Participants reflect a high level of concern that the attitudes of physicians directly contribute in establishing undesirable marketing activities as they request for services in exchange for prescriptions. Physicians contribute to this unhealthy state through their demanding attitudes they practice on PCRs. Moreover, physicians consider that they are entitled for these services from the pharmaceutical companies, as pharmaceutical companies earn profits from their prescribing. They also believe that the physicians' low income and the patients' inability to afford medications was a suitable environment for unethical pharmaceutical promotion. Physicians benefit from this situation by demanding that pharmaceutical companies satisfy their needs, either scientifically or personally and pharmaceutical companies take this opportunity to tempt the physicians.

Chimonas, et al. (2007) did focus group study and suggested that physicians understand the concept of conflict of interest and apply it to relationships with PCRs but at same time they maintained favourable views of physician–PCRs exchanges.

2.8.9 Comments on Attitude Pervious Studies

It can be concluded from previous literature that

- There are extensive studies that explore the attitudes of physicians toward the marketing practices and reveal positive attitude toward overall marketing practices.
- The literature reports some discrepancies in the attitudes toward different marketing practices of pharmaceutical companies. Physicians have positive attitudes toward PCRs' visiting and detailing, free medical samples distributing, non-promotional events sponsoring, promotional events organizing and honoraria paying. At same time, they have contradictory attitudes toward gift giving and scientific studies funding while, have clear negative attitude toward DTC advertising. No studies reported the attitude toward foreign conferences travel sponsoring.
- The literature suggests that physicians have positive attitude toward the information provided by pharmaceutical companies through marketing practices, and they find it as important source for drug information but, they are concerned about its credibility.
- Two studies seek to find the attitude of physicians by companies' types with contradictory results.
- The literature shows that the attitudes of physicians vary due to some characteristics of physicians including personal (income and income satisfaction), professional (specialty, job rank, years of practicing medicine and universities) and practice setting (working in private sector, working at NGOs and average number of patients treated per day).
- The literature reveals a weak positive correlation between the exposure and the attitude toward marketing practices.
- While most of the studies have been described above, search for "explicit attitude", there are few qualitative studies that search for the "implicit attitude". This represents a clear gap.

2.9 Willingness to the Participation in Marketing practices

2.9.1. Definition of Willingness

Willingness is the state of being willing, which refers to the quality or state of being prepared and ready to do something; therefore, willing person is the person who has free choice or consent of the will; freedom from reluctance; readiness of the mind to do or forbear (Oxford Dictionary, 2007).

It is important to find out the willingness of physicians to the participation in marketing practices, where the willing physicians to the participating in marketing practice are currently engaged and will be engaged more in the marketing in the future, and this make them more vulnerable to the influence of these practices, and vice versa

Through experience and learning, people acquire attitudes, which in turn influence their behaviours. They lead people to behave in a consistent way toward similar objects. Therefore, attitudes help us define how to see situations, as well as define how to behave toward the situation or object. When we refer to a person's attitude, we try to explain his/her behaviour (Kotler & Keller 2012, P. 250).

Attitudes are not a necessary predictor of behaviour and many earlier studies found weak correlations between attitudes and behaviour (Blake, 1999). Alfred Adler (1937), a Viennese physician who developed the theory of Individual Psychology, emphasized that that our attitudes are influenced by the social world and our social world is influenced by our attitudes. These interactions, however, may cause a conflict between a person's attitude and behaviour (Pickens, 2005). This disparity has been termed the "*value-action gap*", or occasionally, it is referred to as the ''*attitude-behaviour gap"* Kollmuss & Agyeman, 2002). This gap occurs when the values or attitudes of an individual do not correlate to his or her actions. More generally, it is the difference between what people say and what people do.

Holding inconsistency between two or more of one's attitudes or between one's behaviour and attitudes put physicians in a position of cognitive dissonance (Borkowski, 2008). *Cognitive dissonance* refers to a situation involving conflicting attitudes, beliefs or behaviours (McLeod, 2014). This produces a feeling of discomfort leading to an alteration in one of the attitudes, beliefs or behaviours to reduce the discomfort and restore balance etc. Festinger's (1957) cognitive dissonance theory suggests that we have an inner drive to hold all our attitudes and beliefs in harmony and avoid disharmony (or dissonance) and stated that any form of inconsistency that is uncomfortable for the person will prompt the person to reduce this conflict.Therefore, to resolve the dissonance, physicians used a variety of denials and rationalizations mechanisms but most probably avoid the painful elimination mechanism.

Therefore, the correlation between willingness and attitude may reveal the absence of attitude-behaviour gap and cognitive dissonance situations, which reflect the inconsistency between two or more of person's attitudes or between one's behaviour and attitudes (Borkowski, 2008). This situation may appear among physicians by conflicting between their attitude and willingness. Thus researcher suggests that

- If there is a correlation between the willingness and attitude of physicians toward marketing practices, this reflects the absence of attitude-behaviour gap and cognitive dissonance situation, and if physicians have positive attitude, they will participate more in marketing practices, and vice versa.
- If there is no correlation between the willingness and attitude, there is a clear attitude-behaviour gap and a critical situation of cognitive dissonance that have to be evaluated by researcher and policy maker form both regulatory authorities and pharmaceutical companies.

2.9.2 Literature on the Willingness to the Participation in Marketing Practices

There is a clear consensus among literature that most physicians have willingness to the participation in the marketing practices of pharmaceutical companies. Wazana (2000) found that many of physicians are willing to give significant amounts of time to engaging in marketing practices. Campbell, et al. (2007) found that most physicians are willing to receive promotional printed materials, free medical samples, gifts and food. Ijoma, et al. (2010) found that the majority of physicians are willing to participate in marketing strategies and Misra, et al. (2010) found that most respondents encourage pharmaceutical companies to support important conferences.

Thus, literature shows that physicians usually have willingness to participation in the marketing practices even when they might have negative attitude toward marketing practices. Therefore, some physicians may have conflicts between their attitudes from one side and their behaviours or willingness to the participation in marketing practices from the other side (Chimonas, et al., 2007).

2.9.3 Comments on Willingness Previous Studies

- The literature confirms that physicians have willingness to the participation in the marketing practices of pharmaceutical companies.
- There are discrepancies in attitudes and consistency in willingness as shown by literature, which encourage the researcher to find out the willingness of MOH hospitals' physicians and its correlation with the attitude.
- Finding out the willingness of physicians to the participation in the marketing practice may reflect physicians' current and future behaviours, and determining how this willingness may associate with attitude may explore such situations of attitude-behaviour gaps or cognitive dissonance.

2.10 Perception about the Influence of Marketing Practices

The ultimate goal of all marketing practices of pharmaceutical companies is to influence the prescribing behaviour of the physicians toward the marketed drug. Therefore, to get more complete and clear picture of marketing practices, it is important to discuss the concept of prescribing behaviour and the influence of the marketing practices on, then to explore the perception of physicians about the influence of marketing practices on their prescribing behaviour.

2.10.1 Prescribing Behaviour of Physicians

The definition of prescribing behaviour is a very broad concept including different dimensions. In this study, the researcher's focus will be on the concept of adoption as "a *mental steps through which an individual pass from first hearing about an innovation (drug) to final adoption. It includes the consequence of steps from awareness, interest, evaluation, and trial to adoption (*Kotler & Keller, 2012, P. 611).

Adoption defined according to the AMA as *a process that individuals and firms, (physicians), go through when accepting new products (drugs).* The different stages in the process of adoption of physician to a new drug include; new drug awareness, gathering information about the drug, developing positive attitudes toward the drug, testing it in some direct or indirect way, finding satisfaction in the trials and adopting the drug into a standing usage or repurchase pattern (AMA, 2013)

2.10.2 Influence of Marketing Practices on prescribing behaviour

The concept of prescribing behaviour of physicians is extensively discussed, and there are three questions can be deduced from the literature, which are:

1- Do Marketing practices influence the prescribing behaviour?

It becomes a fact that marketing practices influence the prescribing behaviour of physicians. Since long time, many studies found that there was a strong correlation between physicians' tendencies to recommend drugs and the marketing practices (Chren, et al., 1989; McInney, et al., 1990; Banks & Mainour, 1992).

These findings are confirmed by Lexchin (2009) and Wannza (2000) who found that such interactions affect prescribing behaviour of physicians. Also, there are many mounting of studies which confirm the influence of each type of the marketing practice on the prescribing behaviour of physicians, as shown before.

In the Gaza Strip, Kishawi (2014) believed that PCRs' visiting affect the medicine practices of physicians in the Gaza Strip, and a decision was taken by MOH to prohibit their entrance to MOH hospitals, but this decision was not properly implemented and monitored.

2- What is the impact of marketing practices on prescribing behaviour?

Substantial literature reveals that marketing practices of pharmaceutical companies impact the prescribing behaviour in multifaceted approaches. First and most important is that it increases the likelihood of physicians to prescribe the marketed drugs (Prosser, et al., 2003). Wazana (2000) identified eight studies linking pharmaceutical marketing to increase

prescribing, non-rational prescribing, to prescribe generic medications, to request that the sponsor's medication be added to hospital formularies, and to increase prescribing costs**.**

Buckely (2004) synthesized these findings and concluded that there are certain negative outcomes associated with interactions between physicians and pharmaceutical industry, which are including the following:

- Non-rational prescribing behaviour.
- Increased prescribing rates.
- Rapid adoption and prescription of new drugs.
- Prescribing of fewer generics and more expensive new drug.
- Formulary requests for drug without key advantages over existing medicines.

Buckely (2004) also suggested a number of key reasons make us more concerned about the impact of pharmaceutical' marketing practices, these include:

- The fact that drug marketing is often misleading.
- Inability to identify inaccurate claims about drugs.
- The risk of disease mongering.
- The increasing costs of drugs within national health systems.
- New drugs are the ones most heavily promoted.
- New drug are the ones with the least well- understood safety profiles.

3- What are the other factors -besides marketing practices- may influence the physician prescribing behaviour?

Despite the huge and extensive literature which confirms the influence of marketing practices on the prescribing behaviours of physicians, some literature suggests that response of the physicians to the marketing practices varies, and do not necessarily match their prescribing behaviour (Norris, et al.,2004). This suggests that there other factors may influence the prescribing behaviour of physicians beside marketing practices.

Social contagion is an important factor, where physicians are influenced by other colleague's physicians' attitudes, knowledge, or behaviour when deciding to adopt a drug (Van den Bulte & Lilien, 2001; Berndt, Pindyck, & Azoulay, 2003). Formal regulations, ethical codes and educational interventions are also important factors that may affect not only the attitude but also the prescribing behaviour (Randall, et al., 2005).

Patient economic status and cost of drug are factors that usually considered when physicians choose among drug alternatives. Ijoma, et al. (2010) indicated that about 70% of physicians consider patients' socioeconomic status before prescribing. It is logically that the availability of drugs and the essential drug list adopted by each healthcare facility is a contribution factors. Drug quality and the experience of physician with a drug are essential factors.

All these factors may affect the extent and direction of the relation between exposure and attitude of marketing practices as an independent variables and prescribing behaviour as a dependent variable. Therefore, it is not enough to have high exposure and/or positive attitude toward the marketing practices and the marketed drug to prescribe the promoted drug. A physician's prescribing behaviour is a function of the opportunity to prescribe, plus his/her attitude, along with outside influences (Nickum & Kelly, 2005).

2.10.3 Definition of the Perception

The most important and relevant definition of perception to this study is the psychological and marketing definition of perception as "the process by which we interpret and organize sensation to produce a meaningful experience of the world" (Lindsay & Norman, 1977). The perception process follows four stages: stimulation, registration, organization, and interpretation (Assael, 1995). By perception someone receives, selects, and interprets information. Once a person is confronted with a situation or stimuli he/she interprets the stimuli into something meaningful to him or her based on prior experiences. However, what an individual interprets or perceives may be substantially different from reality (Borkowski, 2008).

As perception is the way we think about or understand something, perception may become closely related to attitude and the two terms seem to mean quite the same thing, but there's a great difference in their implications. Perception refers to an opinion formed about a product or brand on reception of a stimulus. Every stimulus (selectively perceived stimulus) leads to formation of perception. Once perception is formed about a product, physicians tend to learn more about the product or brand. Once learning comes up to the desired level, physicians form attitude. The difference between these two psychological domains lies in the fact that every single stimulus forms a perception, while attitude is a consequence of learning about a product/brand, which in turn is the outcome of perceptions (Assael, 1995).

It is important for the policy makers to find out how physicians perceive the influence of marketing practices on their prescribing behaviour, where;

- If physicians don't perceive this influence and unaware about such influence, the interventional action have to be training to increase their awareness about such influence and to be immune from the negative outcome of the marketing practices.
- If physicians don't perceive and deny this influence, the interventional actions have to be formal regulations and ethical codes to restrict this interaction.
- If physicians do perceive and admit such influence, the interventional action have to be both training to increase their awareness about such interaction and formal regulation and ethical codes to govern the interaction.

Also, finding out the correlation between this perception and attitude is very important to govern the interaction between physicians and pharmaceutical companies, where;

- The presence of correlation means that physician care about this influence of marketing practices on his/her prescribing behaviour, this influence may make her/him to change the attitude accordingly
- The absence of such correlation suggests that physicians do not care about such influence; therefore they need aggressive interventional approaches for their interaction with pharmaceutical companies. This needs urgent intervention form policy makers.

2.10.4 Literature on the Perception about the Influence

Despite the substantial evidence which confirms that marketing practices influence prescribing behaviour of physicians, physicians do perceive themselves are not influenced by these practices. The literature shows that physicians generally under recognize the effect of marketing practices on their prescribing behaviour and many physicians believe they are not susceptible to these influences.

In one survey, just 8% of physicians believed they are susceptible to influence by marketing items (Grande, et al., 2009). In Saudi Arabia, physicians indicated that they feel that they are not improperly affected in their professional practice by marketing practices (Zaki, 2014). Morgan, et al. (2006) found that only 33% of the respondents though that their own decision to prescribe a drug would probably be influenced by accepting drug samples. Sharma, et al. (2010) found that 70% of the respondents believed that receiving gifts do not affect their prescribing practices.

Actually, researcher found that only in the developing countries, the physicians acknowledge and admit this influence. In Nigeria, Ijoma, et al. (2010) found that most physicians (60%) attending a drug presentation feel influenced. A similar study in Turkey by Vancelik, et al. (2007) found that according to self- report of the general practitioners, their prescribing decisions are affected by participation in any training activity of drug companies, and frequent visits by PCRs. In Ghana, Appiah-Kubi, (2011) found that 57% of respondents stated that the interactions they had with PCRs may have influenced their prescription of a branded drug. In Saudi Arabia, Al-Areefi, et al. (2013) found that most of the physicians believe that they are under marketing pressure to prescribe certain medicines.

What does make this evidence odd is that while physicians deny that they are influenced by marketing practices, they claim that these practices influence other physicians. In other words, most physicians claim that their colleagues are susceptible to the industry's influence but feel personally invulnerable. In one study, 76% stated that PCRs often or always want to influence their prescribing patterns, only 6% considered themselves to be often or always influenced, while 21% believed this of their colleagues (Lieb & Brandtönies, 2010). A similar study show minority of physicians feel that their own prescribing could be influenced by contact or gifts, but are more likely to believe that others' prescribing could be influenced (Zipkin, et al., 2005).

In another study, 61% of residents feel that interactions with PCRs do not alter their own behaviour, but only 16% feel that others are similarly unaffected and 75% of physicians believe that pharmaceutical marketing affects residents' prescribing, but only 49% of residents agree (Chimonas, et al., 2007). In Libya, Alssageer and Kowalski (2013) found that 62% of respondents reported that they believe that pharmaceutical marketing has minimal influence on prescribing behaviour of physicians, in general, and has less effect (80%) on their own prescribing. Many physicians state that their reliance on evidence based medicine provides them immunity from pharmaceutical industry.

2.10.5 Comments on Perception Previous Studies

- The literature strongly confirms that marketing practices do influence the prescribing behaviour of physicians in multifaceted approaches.
- The literature shows that physicians generally do perceive themselves are not influenced by these practices while they perceive their colleagues are susceptible to the industry's influence.
- In the developing countries, the physicians acknowledge and admit this influence, while in developed countries the physicians deny this influence.
- It is important to find out how do physicians perceive the influence of marketing practicing on their prescribing behaviour, and how this perception is associated with their attitude.
- To the researcher's best knowledge, this study is the first study which examines this correlation between the physicians' attitude and their perception about influence of marketing practices on prescribing behaviour, to find out that if the physicians perceive and admit such influence on his/her prescribing behaviour, will this perception affects his/her attitude toward the marketing practices?

2.11 Preparedness to the Regulation of Marketing Practices

2.11.1 Definition of the Preparedness of Physicians

Preparedness is a term used to prescribe a state of readiness to do something (Oxford Dictionary, 2014). In this study it refers to a state of physicians to be prepared for implementing of formal regulations and ethical codes to govern the interaction between physicians and pharmaceutical companies.

The presence of formal regulations and ethical codes in different healthcare systems, in addition to the awareness and the compliance of physicians with, were extensively studied. The literature shows that the presence, awareness and compliance with these regulatory policies and ethical codes vary by practice setting (Pinto, et al., 2007; Balhara, et al., 2012; Alosaimi, et al., 2013b), also physician training and didactic programs offer a critical opportunity to disseminate knowledge about the interaction between physicians and the pharmaceutical industry and to encourage appropriate ethical behaviour (Carroll, et al., 2007; Randall, et al., 2005).

Based on the current situation in the Gaza Strip and feedback from Balawi (2013) who indicated there are no effective formal regulations or ethical codes govern the interaction between physicians and pharmaceutical companies in the Gaza Strip, the researcher suggests that it is logic and more fruitful to evaluate the preparedness of physicians to the regulation of marketing practices than evaluate the presence, awareness and compliance with these regulations and codes.

Finding out the preparedness of physicians to the regulation of the marketing practices is essential for the policy makers to evaluate the preparedness of physicians to the regulation of marketing practices where,

- The presence of such preparedness means that the implementation of the formal regulations and ethical codes will be easy because physicians are encouraged to such guidelines and these procedures.
- The absence of such preparedness means that the implementation of the formal regulations and ethical codes will not be easy because physicians are not encouraged to such guidelines and procedures.

At the same time, finding out the correlation between the attitude and the preparedness will give indication for future outcome,

- If there is no correlation between preparedness and attitude; this means that as the regulations increase, the physicians' attitude will not affect the physicians' attitude.
- If there is a correlation between preparedness and attitude; there are two situations:
    - If there is a direct relationship between preparedness and attitude; this means that as the regulations increase, the physicians' attitude will be more positive. This is unexpected situation.
    - If there is inverse relationship between preparedness and attitude; this means that as the regulations increase, the physicians' attitude will be less positive. This is the normal and expected situation.

2.11.2 Literature on the Preparedness of Physicians

Although, no author introduced the term of preparedness in comprehensive manner similar to this study; many authors incorporated some hints about it and revealed contradictory findings.

Some literature shows hints that physicians agree to some regulations of pharmaceutical marketing. For example, Sharma, et al. (2010) found that 55% of respondents stated that the government should prohibit pharmaceutical companies from giving gifts to doctors while 32.5% are against such a ban. Pinto, et al. (2007) found that 58% of respondents though that the guidelines would increase physicians' credibility and professional image and 68% agreed that it is important to do so. In Libya, Alssageer and Kowalski (2013) found that 57% of the respondents approved of establishing of a national

policy to control PCR interactions. In India, Misra, et al. (2010) found that 53% of respondents agreed that PCRs should be restricted from making presentations on campus.

On the other hands, some literature show that physicians disagree to some regulation of marketing practices. For example, in the United States, Morgan, et al. (2006) found that 34% of respondents agreed that interactions with industry should be more strictly regulated. Korenstein, et al. (2010) found fewer surgeons believed that trainees and attending physicians should be prohibited from interacting with industry representatives. In Germany Lieb & Brandtönies (2010) found that 52% of the physicians regret the cessation of PCRs' visits, because PCRs give practical prescribing information, offer support for continuing medical education, and provide pharmaceutical samples. In India, Balhara, et al. (2012) found that only 35% of the residents believed that there should be some external regulation on the interaction between a psychiatrist and a pharmaceutical company. In Saudi Arabia, the majority of physicians indicated that there is no need to restrict the contact between physicians and PCRs (Zaki, 2014)

2.11.3 Commentary on Literature of the Preparedness of Physicians

- The literature shows that the presence, awareness and compliance with these formal regulations and ethical codes vary due to the practice setting.
- No author comprehensively introduces the term of preparedness similar to this study but many authors incorporated some hints with contradictory findings.
- To the researcher’s best knowledge, this study will be the first study which examines the correlation between the physicians' preparedness to the regulations of marketing practices and their attitude to find out that if physician is prepared well for the regulation of marketing practices, will this preparedness affect his/her attitude toward marketing practices or not?

Chapter Three: Methodology

CHAPTER OUTLINE

3.1 Introduction

In this chapter, the researcher presents the study methodology. The chapter commences with study design, setting and period, population, sample, eligibility criteria, and ethical consideration. Then it presents the instrument which was used in this study, its validity and reliability and piloting. Also, it presents data management which includes data collection, data processing, and data analysis.

3.2 Study Design

The design of this study is descriptive analytical cross-sectional one; it describes the exposure and attitudes of MOH hospitals' physicians toward marketing practices of pharmaceutical companies in the Gaza Strip, as well as it analyzes and identifies specific factors that may associated with the differences in the exposure and the attitude of MOH hospitals' physicians toward marketing practices. Also, it seeks to analyze the correlation between the attitude of MOH hospitals' physicians – from one side – and their exposure, willingness, perception, and preparedness – from the other side-.

Descriptive research is used to describe characteristics of a population or phenomenon being studied. It does not answer questions about how/when/why the characteristics occurred; rather it addresses the "what" question, what are the characteristics of the population or situation being studied? (Patricia & Rangarjan, 2013). In other side, analytic research generates new knowledge about concepts and identifies relationships between variables, thus provide some possible indications about causation relationships (Burn & Grove, 1997).

Cross-sectional studies provide a clear "snapshot" of the outcome and the characteristics associated with it, at a specific point in time (Hall, 2008). Cross sectional design reflects the existing facts at the same point of time of data collection, it consumes less time than other longitudinal studies (Fathalla, 2004). Cross sectional design was chosen because it is useful for descriptive analysis. It is less expensive and enables the researcher to accomplish the study objectives in short time.

3.3 Study Setting and Period

3.3.1 Study Setting

The study was conducted at all MOH hospitals in the Gaza Strip Governorates including Al-Shifa Hospital, Nasser Hospital , European Gaza Hospital, Al-Aqsa Hospital, Kamal Odwan Hospital, Al-Najjar Hospital, Al-Naser Hospital, Beit Hanoun Hospital, Al-Dorrah Hospital, Al-Rantesi Hospital, Al-Helal (Emirate) Hospital, Gaza Eye Hospital and Gaza Psychological Hospital .

3.3.2 Study Period

The study was conducted in the year 2013 - 2014; started with literature review in October 2013. The pilot study was conducted in March 2014. Actual data were collected in April and June 2014. Data analysis was completed during September 2014 to December 2014. The study took almost 14 months from its beginning.

3.4 Study Population and Sample

3.4.1 Study Population

The study population includes all practicing physicians who work during the time of data collection at any hospitals of MOH in the five governorates of the Gaza Strip. According to data from Licensing Unit of MOH, in 8th of December 2013, the numbers of physicians who have licenses to practice medicine in the Gaza Strip is 5,050 physicians, while the number of physicians who are currently practicing medicine in any healthcare setting in the Gaza strip is unknown (Hamadah, 2013) .

According to data from MOH General Directorate for Financial and Managerial Affairs, the number of physicians were employed by MOH is 1,870 including 172 physicians who employed but stay at home- who refuse or are prohibited to return to their positions after the de facto divide between Fateh and Hamas.

The number of physicians who work in other MOH facilities than hospitals is 299 physicians (Hammad, 2013). Therefore, the number of practicing physicians who work at the time of data collection in any hospitals of MOH in the five governorate of the Gaza Strip is 1,399 practicing physicians. This number represents the study population and accredited by data from General Directorate for Hospitals (Hassounah, 2013).

3.4.2 Study Sample

The sample size determination was calculated based on Decision Analyst™ STATS 2.0 program, with universe size of 1,399, maximum acceptable percentage points of error of 5% and desired confidence level of 95%. Therefore, the representative sample is 301 physicians (Appendix 1). The researcher used a sample of 380 physicians.

Proportional Stratified Random Sampling technique was used by the researcher to select the sample of the study. The study population was divided into subgroups based on physicians' specialties and subspecialties - the most important variable associated with the significant differences of the exposure and attitude in the literature- then the sample was randomly selected from each specialty and subspecialty according to its proportion.

Table (3.4-1): Distribution of Study Sample illustrates the distribution of specialties and subspecialties among study sample and pilot. Then, subspecialties and rare specialties are consolidated into seven major specialties groups.

Table (3.4-1): The Distribution of Study Sample

No.	Specialty	Subspecialties	Number	Percentage	Pilot	Sample
1	General Practitioners	General Practitioners	**728**	**52.04%**	**16**	**198**
2	Surgery	Pediatric Surgeon	26	1.86%	1	7
		Oncosurgeon	1	0.07%	0	0
		Vascular Surgeon	7	0.50%	0	2
		Plastic Surgeon	4	0.29%	0	1
		General Surgeon	57	4.07%	2	15
		Cardiac Surgeon	5	0.36%	0	1
		Urology	30	2.14%	1	8
		Neurosurgeon	10	0.71%	0	3
		Orthopedics	48	3.43%	1	13
		Face Surgeons	11	0.79%	0	3
		ENT	34	2.43%	1	9
		Surgery (Sub-Total)	**233**	**16.65%**	**6**	**62**
3	Internal Medicine	Hemato-oncology	14	1.00%	0	4
		Neurology	12	0.86%	0	3
		General Medicine	50	3.57%	1	14
		Dermatology	15	1.07%	0	4
		Rheumatology	2	0.14%	0	1
		Pulmonologist	8	0.57%	0	2
		Endocrinology	9	0.64%	0	2
		Cardiology	32	2.29%	1	9
		Internal Medicine (Sub-Total)	**142**	**10.14%**	**2**	**39**
4	Pediatrics	Pediatrics	**100**	**7.15%**	**2**	**27**
5	Gynecology & Obstetrics	Gynecology & Obstetrics	**91**	**6.50%**	2	25
6	Ophthalmology	Ophthalmology	**31**	**2.22%**	1	8
7	Others	Psychology	7	0.50%	0	2
		Radiology	17	1.22%	0	5
		Pathology	3	0.21%	0	1
		ICU & Anesthesiology	47	3.36%	1	13
		Others (Sub-Total)	**74**	**5.29%**	**1**	**21**
Total			**1,399**	**100%**	**30**	**380**

3.5 Eligibility Criteria

3.5.1 Inclusion Criteria

- All the licensed physicians who are employed, work and practice medicine at any MOH hospitals in the five governorates of the Gaza Strip during the implementation period of the study.

3.5.2 Exclusion Criteria

- Physicians who were abroad or in long holidays during the implementation period of the study.
- Physicians who are employed but stay at home, who refuse or are prohibited to return to their positions after the de facto divide between Fateh and Hamas.
- Physicians who work in managerial jobs *only* and don't practice medicine (don't treat patients).

3.6 Ethical Consideration and Procedures

Real commitments to the ethical considerations developed by Helsinki declaration were maintained throughout the study. First, after obtaining the academic approval from faculty of commerce of Islamic University in Gaza, Ethical approval was obtained from the local Helsinki Committee to carry out the study (Appendix 2).

Second, administrative approvals were obtained from respective directorates at MOH, including General Directorate of Human Resources Development (Appendix 3), General Directorate of Hospitals (Appendix 4) and General Directorate Financial and Managerial Affairs (Appendix 5).

Third, to guarantee participants' rights, an explanatory covering letter was attached to every questionnaire as an informed consent, indicating that the participation is voluntary and confidentiality will be assured for all of them (Appendix 6 and 7).

3.7 Study Instrument

A quantitative approach, using structured questionnaire, was used in this study. The traditional scientific quantitative research comes under the umbrella of the positivistic paradigm, which emphasizes rationality and scientific orientation to phenomena (Polit & Hungler, 1999). The positivistic approach assumes that there is a material reality out there that could be studied and revealed (Burns and Grove, 1997). This means that the quantitative method searches for quantifiable or measurable data (Holloway & Wheeler, 1996). Positivistic approach seeks to be as objective as possible in the detection of

knowledge; therefore, researchers attempt to hold their personal beliefs and biases away as much as possible (Holloway & Wheeler, 1996).

However, the researcher elected a quantitative research for its fitness for the study and advantages, such as wide coverage (Bell, 1993), generalisability, saving time (Holloway & Wheeler, 1996), enhancing confidentiality, supporting internal and external validity, facilitating analysis, saving resources and limiting researcher's effect on the study (Polit & Hungler, 1999).

3.7.1 Developing of the Questionnaire

The questionnaire (Appendix 6 & 7) was developed by the researcher based on literature review, consultation of experts in the field of pharmaceutical who were interviewed by the researcher and researcher's observations and experience.

The questionnaire consisted of six sections:

- The first section includes a number of close ended questions that covered the physician's characteristics which are relevant to study and include three subcategories:
    - Personal Characteristics: Gender, age, average monthly income and income satisfaction.
    - Professional Characteristics: Graduation country of Bachelors, years of practicing medicine in Gaza, highest educational degree, job rank, specialty, holding a managerial position, and participating in scientific /drug / referral committees.
    - Practice setting Characteristics: Hospital and department the physician works at, having a private clinic, location of the private clinic, working at NGOs, average number of patients treated by physician per day and average number of prescriptions prescribed by physician per day.
- The second section is a number of close ended questions to identify the extent of exposure of physician to different types of the marketing practices and by pharmaceutical companies' types.
- The third section is a number of opinion questions of a Likert Scale to appraise the attitude of physician toward different types of the marketing and by companies' types.
- The fourth part is a number of opinion questions of a Likert Scale to appraise the willingness of physicians to the participation in the marketing practices of pharmaceutical companies.
- The fifth part is a number of opinion questions of a Likert Scale to appraise the perception of physician about the influence of the marketing practices on her/his prescribing behaviour.
- The sixth part is a number of opinion questions of a Likert Scale to appraise the preparedness of physician to the regulation of the marketing practices of pharmaceutical companies.

For Likert Scale, the researcher used the numerical scale 1-5 as data measurement, where 5 corresponds to a strong agreement with the statement, and it gradually decreases until 1 which correspond to a strong disagreement with the statement.

3.7.2 Translation of the Questionnaire

Initially the questionnaire was developed in English. Then, the questionnaire had been translated into the Arabic version for the convenience. As the language boundary is an inherent part of international business research and to overcome translation related obstacles, the researcher took into account the recommendation of Arabic linguistics experts by avoiding the translating of the questionnaire word by word and focusing on translating the meaning of English into Arabic. Also, the literature recommends that translation should be done by people who are native speakers of the language to which the questionnaire is being translated to and who should also be experienced in questionnaire design in the target language (Chapman, et al., 2004).

Therefore, accreditation of translation was done by Dr Akram Habeb assistant professor of English Literature at Faculty of Art in IUG, who did some amendments and then approved the translation of words and meanings of the questionnaire.

3.8 Pilot Study

Before starting the actual data collection process, a random sample of 30 physicians was selected from the study population as a pilot study. Pilot study was conducted, as a pre-test for the data collection instruments in order to predict the appropriateness of the instruments, to detect if there is a need for any modifications to be done for the instruments and to let the researcher train for the data collection, in order to further improvement of the study validity and reliability. Modifications were introduced into the questionnaire after piloting. The pilot subjects of physicians were not included in the study.

3.9 Data Management

In addition to the primary data that were collected through questionnaire survey, the researcher has used plenty of secondary data resources to justify the problem and gain maximum information regarding the exposure and attitude of physicians toward marketing practices.

The used secondary data resources included:

1. Scientific journals and academic magazines
2. Thesis and dissertations
3. Text books, conferences proceedings and reports
4. Interviews
5. Internet articles and websites

The researcher tried his best to obtain the mentioned data; but could not find any written in Arabic regarding the research topic.

3.9.1 Data Collection

The questionnaire was a self-administered as the target population was highly professional and to encourage physicians to give credible answers about his/her practices and attitudes. Also it saves time, ensures equity in administration for all participants.

After having administrative approvals from General Director of MOH hospitals, the questionnaires were distributed with an empty envelop, and participants were asked to return back the completed questionnaires without names. The participants were given the opportunity to fill the questionnaires at their homes in order to maintain confidentiality and convenience.

The researcher sent an explanatory covering letter with the questionnaire to explain the objective of the study and to illustrate how to answer the questionnaire (Appendix 6&7).

One researcher assistant distributed the questionnaire to all participants among all MOH hospitals, described the general rules for filling and participation and then asked them to return the questionnaire back without names. The researcher assistant has good experience in collecting data, and he was trained by the researcher how to handle this questionnaire in consistent manner.

3.9.2 Response Rate

The study population consisted of 1,399 licensed physicians who are practicing medicine at MOH hospitals in the Gaza Strip governorates, from them 380 (27.2%) were sampled and 309 (81.3%) were responded.

Response Rate = Collected Questionnaires / Distributed Questionnaires

= 309/380 = 81.3%

3.9.3 Data Entry

- Questionnaires were overviewed.
- Five questionnaires were excluded after checked for completeness and logical filling, therefore 304 questionnaires are usable.
- Data entry was done after the over viewing of the filled questionnaires.
- The questionnaires were coded then were entered onto the computer.

- Data entry model was designed using the computer Statistical Package for Social Sciences (SPSS).
- The next step after data entry was data cleaning which was done to ensure that all data was entered correctly. This process was done through checking out a random number of the questionnaires and through conducting descriptive statistics and frequencies for all variables.

3.9.4 Data Measurement

In order to be able to select the appropriate method of analysis, the level of measurement must be understood. For each type of measurement, there is an appropriate method that can be applied. In this research, ordinal scales were used. Ordinal scale is a ranking or a rating data that normally uses integers in ascending or descending order. The numbers assigned to the important (1, 2, 3, 4, 5) do not indicate that the interval between scales are equal, nor do they indicate absolute quantities. They are merely numerical labels. Based on the following Likert Scale:

Paragraph	***Strongly Disagree***	***Disagree***	***Do not Know***	***Agree***	***Strongly agree***
Scale	1	2	3	4	5

3.9.5 Data Analysis

In order to extract information from collected data, different data analysis tests were conducted. Starting with the descriptive analysis, frequency tables were conducted to show sample characteristics. Means and standard deviation were computed for the continuous numeric variables. Recoding of certain variables took place.

Then, in order to explore the potential relationship between the study's variables, advanced statistical analysis was conducted. These statistical tests could be parametric tests or non-parametric tests. Identification of the statistical tests types depends on the types of variables and/or the distribution of data (by testing of the normality of the collected data). Easton & McColl (1997) confirms the following:

The basic distinction for parametric versus non-parametric tests depend on two rules:

- First: If measurements are nominal or ordinal scale, non-parametric statistics will be used, whereas if measurements are interval or ratio scales, then parametric statistics will be used.
- Second: If data are supposed to take parametric statistics, the distributions has to be checked by normality test. If the collected data are normally distributed, parametric test will be used, whereas if the collected data are non-normally distributed, then non-parametric tests will be used.

In this study, there are two types of variable, ordinal variables which have to be analyzed by non-parametric test while, normality test was done for numeric data to identify the type of distribution and the statistical tests.

Test of Normality

Tests of normality, including Kolmogorov–Smirnov test , histogram of the sample data to a normal probability curve and a Quantile-Quantile plot (QQ plot), were done for numeric data includes age , average monthly income, average number of patients treated by physician per day and average number of prescriptions prescribed by physician per day. These tests confirm the normal distribution of these data. In contrast, these tests were done for respondents' exposure and do not confirm the normal distribution of exposure data. Therefore, the statistical tests in the study were the *non-parametric Tests*.

Statistical Tests

The Data analysis was made utilizing (SPSS 22) with the following statistical tools:

- Cronbach's Alpha for Reliability Statistics
- Pearson and Spearman Rank correlation for Validity
- Frequency and Descriptive analysis
- Sign test
- Non-Parametric Tests: (Mann-Whitney test, Kruskal-Wallis test, and Spearman Rank correlation).

Sign test is used to determine if the mean of a paragraph is significantly different from a hypothesized value 3 (Middle value of Likert scale). If the P-value (Sig.) is smaller than or equal to the level of significance, $\alpha = 0.05$, then the mean of a paragraph is significantly different from a hypothesized value 3. On the other hand, if the P-value (Sig.) is greater than the level of significance $\alpha = 0.05$, then the mean a paragraph is insignificantly different from a hypothesized value 3 (George & Mallery, 2003). The sign test used in this study to find out the agreement or disagreement of respondent toward the paragraph and fields of attitude, willingness to the participation, perception about the influence and preparedness to the regulation.

Mann-Whitney test is (also called the Mann–Whitney–Wilcoxon or Wilcoxon–Mann–Whitney test): one of the most powerful of the nonparametric tests for comparing two populations. It does not require the assumption that the differences between the two samples are normally distributed , and is used in place of the independent two samples t-test when the normality assumption is questionable (Easton & McColl, 1997). This test was used to examine if there is a statistical significant difference between two groups among the respondents' exposure and attitudes toward marketing practices of pharmaceutical companies in the Gaza Strip due to some physicians' characteristics e.g. (gender, holding a

managerial position, participating in committees, having a private clinic, and working at NGOs).

Kruskal-Wallis test is a non-parametric test used to compare three or more samples. It does not require the assumption that the differences between the samples are normally distributed , and is used in place of One-way, independent-measures ANOVA when the normality assumption is questionable. It is a logical extension of the Wilcoxon-Mann-Whitney Test (Easton & McColl, 1997), and has the same idea. This test was used to examine if there is a statistical significant difference between several groups among the respondents' exposure and attitudes toward marketing practices of pharmaceutical companies in the Gaza Strip due to some physicians' characteristics e.g. (age, income, income satisfaction, graduation country of Bachelor's, years of practicing medicine in Gaza, educational degree, job rank, specialty, hospital, department, location of the private clinic, average number of patients treated by physicians per, and average number of prescriptions prescribed by physicians per day).

Spearman's correlation is a nonparametric measure of statistical dependence between two variables. Spearman's rank correlation coefficient ρ (rho) or r_s assesses how well the relationship between two variables. The values of correlation coefficient vary from -1 to +1. Positive values of correlation coefficient indicate a tendency of one variable to increase or decrease together with another variable. Negative values of correlation coefficient indicate a tendency that the increase of values of one variable is associated with the decrease of values of the other variable and vice versa. Values of correlation coefficient close to zero indicate a low association between variables, and those close to -1 or +1 indicate a strong linear association (George & Mallery, 2003). Correlation test will be used in this study to measure the correlation between the attitude from one side and the exposure, the willingness to the participation, perception about the influence and preparedness to the regulation from the other side.

3.10 Validity of the Instrument

Validity of the instrument refers to the degree to which the instrument measures what it supposed to measure (Easterby-Smith, Thorpe, & Lowe, 2002). Validity has a number of different aspects and assessment approaches that could be used to evaluate the study tool. In this study, starting from face validity- by good layout and appearance of the questionnaire- , content validity and statistical validity including criterion-related validity and structure validity were used to evaluate and ensure instrument validity.

3.10.1 Content Validity

To verify the content validity of the study questionnaire, the questionnaire was sent to 15 experts in different fields including management, marketing, healthcare practice, pharmacy, English language, research methodology and statistics (Appendix 10). The experts evaluated items matching, relevance, timing and language. All of the comments

raised by the experts were taken into consideration and the final copy of the questionnaire was modified according to the experts' recommendations.

3.10.2 Statistical Validity

Measuring the statistical validity of questionnaire was conducted on the collected data from the pilot study. The pilot study participants were a sample of 30 physicians selected randomly from the study population with consideration of the different specialties. The collected pilot study information was undergone the statistical validity tests which include internal validity and structure validity.

3.10.2.1 Internal Validity

To insure the internal validity of the questionnaire, statistical tests of ***Criterion Related Validity*** (Spearman test) were conducted. Internal consistency of the questionnaire is measured by scouting the sample of 30 questionnaires through measuring the correlation coefficients between each paragraph in one field and the whole filed.

Tables (3.10-1) through (3.10-4): Correlation Coefficient for Each Paragraph of a Field and the Total of that Field confirm that that the p-values (Sig.) are less than 0.05, so the correlation coefficients of all these fields are significant at $\alpha = 0.05$, so it can be said that the paragraphs of each field are consistent and valid to be measure what it was set for.

Table (3.10-1): Correlation Coefficient of Each Paragraph of "Attitudes toward Marketing Practices" Field and the Total of the Field

No.	Paragraph	Spearman Correlation Coefficient	P-Value
1	PCs' representatives' visits are important for physicians	0.586	0.000*
2	PCs' representatives' visits achieve mutual interest	0.442	0.000*
3	PCs' representative detailing is an important source of information about drugs.	0.567	0.000*
4	PCs' representative detailing includes credible information.	0.643	0.000*
5	Promotional printed materials of PCs have scientific value	0.494	0.000*
6	Promotional printed materials of PCs include credible information.	0.542	0.000*
7	Promotional printed materials of PCs include balanced information about competitors.	0.449	0.000*
8	Promotional printed materials of PCs include information about drug's warnings and side effects	0.514	0.000*
9	Free medical samples broaden physicians' experience about drug.	0.578	0.000*
10	Free medical samples encourage physicians to prescribe more effective drugs.	0.545	0.000*

No.	Paragraph	Spearman Correlation Coefficient	P-Value
11	Free medical samples match with patient's interest.	0.560	0.000*
12	Free medical samples distributing improves physicians' professionalism.	-0.290	0.000*
13	It is acceptable to receive gifts from PCs.	0.538	0.000*
14	Gifts given from PCs improve physicians' relationship with PCs.	0.540	0.000*
15	Gifts given from PCs are ethical.	0.619	0.000*
16	Gifts given from PCs do not create conflict of interest for physicians.	-0.111	0.022*
17	It is acceptable to attend local scientific conferences and CME lectures sponsored by PCs.	0.438	0.000*
18	Physicians appreciate the sponsoring of PCs to local scientific conferences and CME lectures.	0.391	0.000*
19	The hospitality accompanying local scientific conferences and CME lectures encourage physicians' attendance.	0.363	0.000*
20	It is acceptable to attend meetings and lectures organized by PCs.	0.500	0.000*
21	The meetings and lectures of PCs have scientific value.	0.554	0.000*
22	The meetings and lectures of PCs are credible.	0.618	0.000*
23	The meetings and lectures of PCs include balanced information about benefits and risk of drug.	0.480	0.000*
24	It is acceptable to attend foreign conference sponsored by PCs.	0.546	0.000*
25	Foreign conferences sponsored by PCs have scientific value.	0.564	0.000*
26	Attending foreign conference sponsored by PCs does not undermine physicians' professionalism.	-0.264	0.000*
27	It is acceptable to participate in scientific study funded by PCs.	0.532	0.000*
28	Scientific studies funded by PCs have scientific value.	0.591	0.000*
29	Scientific studies funded by PCs adhere with ethics of scientific research.	0.512	0.000*
30	It is acceptable for physicians to receive honorarium for a service she/he provided to PC.	0.452	0.000*
31	It is acceptable for physicians to receive honorarium for a lecture she/he presented for PC.	0.365	0.000*
32	Receiving honoraria from PC does not undermine physicians' independence.	-0.203	0.000*
33	Direct to consumer (patient) advertising of PCs is an acceptable marketing practice.	0.491	0.000*
34	Direct to consumer (patient) advertising of PCs encourage patients to seek treatment.	0.508	0.000*
35	Direct to consumer (patient) advertising of PCs has sufficient information on drug properties.	0.508	0.000*

* Correlation is significant at the 0.05 level

Note:

According to the pilot study, the paragraph No. 59 in the questionnaire " Sponsoring of PCs to local scientific conferences and CME lectures undermine the objectivity of such events" in the field "Attitude toward local scientific conferences and CME lectures sponsored by PCs " was eliminated because the correlation coefficient for this paragraph and the total of this field equals -0.080 and the P-value (sig.) equals 0.074 which is greater than the level of significance $\alpha = 0.05$.

Table (3.10-2): Correlation Coefficient of Each Paragraph of "Willingness to the Participation in Marketing Practices" Field and the Total of the Field

No.	Paragraph	Spearman Correlation Coefficient	P-Value
1	I'd like to be visited by PCs' representatives.	0.478	0.004*
2	I'd like to receive promotional printed materials from PCs.	0.590	0.000*
3	I'd like to receive free medical samples from PCs.	0.544	0.001*
4	I'd like to receive gifts given from PCs.	0.505	0.002*
5	I'd like to attend conferences and CME lecture sponsored by PCs.	0.661	0.000*
6	I'd like to attend meetings and lectures organized by PCs.	0.554	0.001*
7	I'd like to attend foreign conferences sponsored by PCs.	0.721	0.000*
8	I'd like to participate in scientific study funded by PCs.	0.563	0.001*
9	I'd like to receive honoraria paid from PCs in compensation to services	0.542	0.001*
10	I 'd like to have direct to consumer (Patients) advertising of PCs.	0.471	0.004*

* Correlation is significant at the 0.05 level

Table (3.10-3): Correlation Coefficient of Each Paragraph of "Perception about the Influence of Marketing Practices" Field and the Total of the Field"

No.	Paragraph	Spearman Correlation Coefficient	P-Value
1	The marketing practices of PCs affect physicians' prescribing behaviour and their drugs choice.	0.785	0.000*
2	The support received from PC is considered when selecting among alternative drugs.	0.586	0.000*
3	As the exposure of physicians to marketing practices increases, their prescriptions increase.	0.527	0.001*
4	As the value of the marketing practices for physicians increases, their prescriptions increase.	0.705	0.000*
5	Other physicians are under pressure from PCs to prescribe their drugs.	0.703	0.000*
6	Other physicians are more influenced by marketing practices of PCs.	0.656	0.000*

* Correlation is significant at the 0.05 level

Table (3.10-4): Correlation Coefficient of Each Paragraph of "Preparedness to the Regulation of the Marketing Practices" Field and the Total of the Field

No.	Paragraph	Spearman Correlation Coefficient	P-Value
1	It is necessary to implement formal regulations that control the interaction between physicians and PCs.	0.513	0.000*
2	It is necessary to implement ethical codes that govern the interaction between physicians and PCs.	0.544	0.000*
3	It necessary to arrange training courses for physicians about interaction with PCs.	0.552	0.000*
4	It necessary to prohibit the entrance of PCs' representatives to MOH hospitals.	0.525	0.000*
5	It necessary to monitor the promotional printed materials of PCs.	0.465	0.000*
6	It is necessary to distribute reduced packs of free medical samples stamped by " Not for sales".	0.579	0.000*
7	It is necessary to limit the distribution of free medical samples to patients only.	0.585	0.000*
8	It necessary to limit the value of gifts given from PCs to a specific value.	0.566	0.000*
9	It is not necessary to encourage PCs to sponsor local scientific conferences and CME lectures**.**	-0.287	0.045*
10	It is necessary to prohibit PCs from organizing presentations inside MOH hospitals.	0.340	0.000*
11	It is necessary to select physicians for participation in foreign conferences of PCs by MOH.	0.588	0.000*
12	It necessary for physicians to get MOH approval when participate in scientific studies for PCs	0.612	0.000*
13	It is necessary for physicians to disclose for MOH about the honoraria paid from PCs.	0.630	0.000*
14	It is necessary to restrict the marketing of prescription only drugs for physicians only.	0.457	0.000*

* Correlation is significant at the 0.05 level

3.10.2.2 Structure Validity

Structure validity is the second statistical test that is used to test the validity of the questionnaire structure by testing the validity of each field and the validity of the whole questionnaire. It measures the correlation coefficient between one field and all the fields of the questionnaire that have the same level of similar scale.

Table (3.10-5): Correlation Coefficient for Each Field and the Whole of the Questionnaire clarifies that the p-values (Sig.) are less than 0.05, so the correlation coefficients of all the fields are significant at $\alpha = 0.05$. It can be said that the fields are valid to be measured what it was set for to achieve the main aim of the study.

Table (3.10-5): Correlation Coefficient of Each Field and Whole of the Questionnaire

No.	Field	Spearman Correlation Coefficient	P-Value
1	Attitudes toward marketing practices	0.813	0.000*
2	Willingness to the participation in marketing practices	0.718	0.000*
3	Perception about the influence of marketing practices	0.377	0.000*
4	Preparedness to the regulation of the marketing practices	0.357	0.000*

* Correlation is significant at the 0.05 level

3.11 Reliability of the Instrument

The reliability of an instrument is the degree of consistency which measures the attribute; it is supposed to be measuring. The less variation an instrument produces in repeated measurements of an attribute, the higher its reliability. Reliability can be equated with the stability, consistency, or dependability of a measuring tool. The test is repeated to the same sample of people on two occasions and then compares the scores obtained by computing a reliability coefficient (George & Mallery, 2003).

The questionnaire reliability was measured by applying Cronbach's Alpha test on the questionnaire fields. This method is used to measure the reliability of the questionnaire between each field and the mean of the whole fields of the questionnaire. The normal range of Cronbach's coefficient alpha value between 0.0 and + 1.0, and the higher values reflects a higher degree of internal consistency (George & Mallery, 2003). The Cronbach's coefficient alpha was calculated for each field of the questionnaire.

Table (3.11-1): Values of Cronbach's Alpha for Each Field of the Questionnaire and the Entire Questionnaire shows that the values of Cronbach's Alpha for the fields were in the range from 0.774 and 0.876. This range is considered high; the result ensures the reliability of each field of the questionnaire. Cronbach's Alpha equals 0.890 for the entire questionnaire which indicates an excellent reliability of the entire questionnaire.

Table (3.11-1): Values of Cronbach's Alpha for Each Field of the Questionnaire and the Entire Questionnaire

No.	Field	Cronbach's Alpha
1.	Attitudes toward marketing practices	0.876
2.	Willingness to the participation in marketing practices	0.756
3.	Perception about the influence of marketing practices	0.784
4.	Preparedness to the regulation of the marketing practices	0.774
Total		**0.890**

Thereby, it can be said that the researcher proved that the questionnaire was valid, reliable, and ready for distribution for the population sample.

Chapter Four: Results and Discussion

CHAPTER OUTLINE

4.1 Introduction

In this chapter, the researcher presents detailed description of the findings resulted from the collected data from the questionnaires and applying the statistical tests on. The findings will be described and discussed in two main parts:

- The first part discusses the *Descriptive Analysis*, which includes:
  - Respondents' Characteristics
  - Respondents' Exposure to the marketing practices
  - Respondents' Attitudes toward the marketing practices
  - Respondents' Willingness, perception and preparedness
- The second part tackles the *Hypotheses Testing*, which includes:
  - Differences in respondents' exposure.
  - Differences in respondents' attitudes.
  - Correlation between respondents' exposure and attitude.
  - Correlation between respondents' attitude from one side and willingness, perception and preparedness form the other side.

Moreover, the overall results will be compared to each other, interpreted and compared with the previous studies results.

PART ONE: Descriptive Analysis

4.2. Respondents' Characteristics

A sample of 304 physicians was included who are different in their characteristics. In the next three subsections, the researcher describes the respondents' different characteristics including personal, professional and practice setting.

4.2.1 Personal Characteristics

Personal characteristics of the respondents include four items which are gender, age, average monthly income and income satisfactions. Each one of these characteristics will be descried in the following subsections.

4.2.1.1 Gender

Table (4.2-1): Distribution of Respondents by Gender shows that the vast majority of study respondents are male 90.5%, while female represents only 9.5%.

Table (4.2-1): Distribution of Respondents by Gender

Gender	Frequency	Percentage
Female	29	9.5
Male	275	90.5
Total	**304**	**100.0**

Generally, this reflects the recruitment status - not recruitment policy- in Palestine as the working force is mainly male due to many societal factors (PCBS, 2014). Also, this matches the distribution of gender at MOH in general (85% vs. 15 %) and at hospitals (92% vs. 8%), according to data from Directorate of Managerial and Financial Affairs of MOH (Hammad, 2013). This suggests that female physicians prefer to work in centers other than hospitals.

4.2.1.2 Age

Table (4.2-2): Distribution of Respondents by Age shows that age ranges from 26 to 60 years with mean of 43.6 years. Approximately half of the respondents between the age of 40 to less than 50 years, while around one quarter of respondents are above this age group and one quarter below this age group.

Table (4.2-2): Distribution of Respondents by Age

Age in Years	Frequency	Percentage
26 - Less than 30	25	8.2
30 - Less than 35	13	4.3
35 - Less than 40	39	12.8
40 - Less than 45	102	33.6
45 - Less than 50	43	14.1
50 - Less than 55	44	14.5
55 and older	38	12.5
Total	**304**	**100.0**

Age of the respondents ranged from 26 to 60 years with mean of 43.6 years (S.D=8.4).

This distribution of age groups reflects the high recruitment due to the expansion of health services after the establishment of the Palestinian National Authority in 1994. The newly employed respondents with age group between 26 to less than 35 years and constitute 12.5 % of respondents represent those physicians who were employed in the Gaza Strip after Palestinian de facto divide.

The data give important indicators that after less than 15 years from now MOH hospitals may lose 41.1% of its current manpower of physicians who aged 45 years and above and who represent the experienced physicians. Young physicians who aged less than 40 years and generally have the energy and enthusiasm and need to invest more in their training and development, constitute 25.3% of MOH hospital physicians.

4.2.1.3 Average Monthly Income

Table (4.2-3): Distribution of Respondents by Average Monthly Income shows that the average monthly income ranges between NIS 2,500 and NIS 17,000 with average of 4,774.2.

Table (4.2-3): Distribution of Respondents by Average Monthly Income

Average Monthly Income	Frequency	Percentage
< 3000	14	4.7
3000 - < 4000	42	14.0
4000 - < 5000	118	39.2
5000 - < 6000	76	25.2
6000 and more	51	16.9
Total	**301**	**100.0**

Average monthly income ranges between NIS 2,500 and 17,000 with mean 4,774.2 (S.D=1614.3).
The questionnaire was self-administered and there were some missing values.

This average is above the average monthly income of NIS 2,340 for Palestinian employee according to PCBS (2014). The majority of the respondents have average income ranges between NIS 4000 to less than NIS 6000, while 18.7 % of respondents have average below this range and 16.9 % of respondents have average above this range. This average monthly income is similar to that income of the physicians in Egypt (9,350 Egyptian Bound) but, below that income of physicians in Saudi Arabia (22,499 Saudi Arabian Riyal), (Salary Explorer, 2014). This average is far away from the average income of physicians in developed countries such as the United States with average income of USD 21,800 per month (Medscape, 2014).

4.2.1.1 Income Satisfaction

Table (4.2-4): Distribution of Respondents by Income Satisfaction shows that the respondents' income satisfaction is approximately equally divided. Satisfied and very satisfied respondents are 49.7% and dissatisfied and very dissatisfied are 50.3%.

Table (4.2-4): Distribution of Respondents by Income Satisfaction

Income Satisfaction	Frequency	Percentage
Very Satisfied	21	6.9
Satisfied	130	42.8
Dissatisfied	109	35.8
Very Dissatisfied	44	14.5
Total	**304**	**100.0**

These results are similar to the income satisfaction shown in Saudi Arabia (49.5% vs 50.5%) by Al Juhani and Kishk (2011) and much higher than that shown in Egypt (2.9%

vs 97.1%) by Abdel -Rahman, et. al (2008).The unexpected findings are that despite the big differences in income among physicians in the Gaza Strip and the United States, the income satisfaction rates (48% vs 52%) are somewhat higher than that shown by physicians in the United stated (Medscape, 2014).

The percentage of very dissatisfied is approximately similar to the percentage of physicians who aged between 26 to less than 35 years and who were employed in Gaza after Palestinian de facto divide. This group represents a distinguished group of physicians because they do not receive their salaries regularly.

4.2.2 Professional Characteristics

Professional characteristics of the respondents include seven items which are graduation country of Bachelors, years of practicing medicine in Gaza, educational degree (highest), job rank, and specialty, holding a managerial position and participating in committees. Each one of these characteristics will be descried in the following subsections.

4.2.2.1 Graduation Country of Bachelors

Table (4.2-5): Distribution of Respondents by Graduation Country of Bachelors shows that the respondents who graduated from Eastern European Countries (51.7%), from Western Europe Countries (3.4%), from Asian countries (2.3%) and from Arab countries (33.5%). Respondent who graduated from local universities in Palestine represent 4.4 %, and from Turkey represent 4.7%, both groups are selected to be in separated groups because the researchers' insights suggest that they have a distinct cultural and professional behaviours. No respondent graduated from the United States.

Table (4.2-5): Distribution of Respondents by Graduation Country of Bachelors

Graduation Country of Bachelors	Frequency	Percentage
Eastern Europe Countries	154	51.7
Western Europe Countries	10	3.4
Asian Countries	7	2.3
Arab countries	100	33.5
Palestine	13	4.4
Turkey	14	4.7
Total	**298**	**100.0**

The questionnaire was self-administered and there were some missing values.

This clearly reflects that MOH hospitals manpower is mainly from both physicians who graduated from Eastern Europe and Arab Countries. Those physicians who graduated from Arab countries mostly represent the seniors' physicians who studied medicine mainly in Egypt in seventies of the last century. Those physicians who graduated from Eastern Europe countries mostly represent the juniors' physicians who studied medicine in Union

of Soviet Socialist Republics in the eighties and the nineties of the last century. Later group will replace the former as all of later group will retire within next 10 years as maximum.

2.2.2.2 Years of Practicing Medicine in Gaza

Table (4.2-6): Distribution of Respondents by Years of Practicing Medicine in Gaza shows that the respondents are practicing medicine in Gaza from 1 to 34 years with average of 13.3 years. Around 61.7% of the respondents are practicing medicine in Gaza for less than 15 years and 38.3% for 15 years and more.

Table (4.2-6): Distribution of Respondents by Years of Practicing Medicine in Gaza

Years of Practicing Medicine in Gaza	Frequency	Percentage
Less than 5	40	13.3
5 - Less than 10	59	19.7
10 - Less than15	86	28.7
15 - Less than 20	52	17.3
20 - Less than 25	31	10.3
25 and more	32	10.7
Total	**300**	**100.0**

Respondents are practicing medicine in Gaza from 1-34 years with mean of 13.3 years (SD =7.560).
The questionnaire was self-administered and there were some missing values.

This distribution represents a good mix of new blood and good experience. The important finding is that more than one third of respondents have experience less than 10 years. This distribution doesn't match with age distribution of the respondents, which means that there are physicians who are practicing medicine in Gaza for short period while they are seniors.

2.2.2.3 Educational Degree

Table (4.2-7): Distribution of Respondents by Education Degree shows that 24.2% of respondents have Bachelor's degree, 37.4% have Master and High diploma and 38.4% have Doctoral degree or Boarded.

Table (4.2-7): Distribution of Respondents by Education Degree

Educational Degree (Highest)	Frequency	Percentage
Bachelors	73	24.2
High Diploma	37	12.3
Master	76	25.1
Doctoral	24	7.9
Board	92	30.5
Total	**302**	**100.0**

The questionnaire was self-administered and there were some missing values.

These results are extremely different from the data from General Directorate of Hospitals in MOH (Hassounah, 2013) which show that 53.2% of hospitals' physicians have only Bachelor's degree, 23.4% have Master degree and high diploma and only 14.4% have Doctoral degree or Boarded. This may be explained by the number of physicians who joined and passed the Palestinian Board Program in previous two years. The additional important explanation is that many physicians consider some courses they had as Master or Doctoral degrees; this is clearly shown by the banners hanged on their clinics' doors.

2.2.2.4 Job Rank

Table (4.2-8): Distribution of Respondents by Job rank shows that 22.5% of respondents are residents and 77.5% are specialists and consultants.

Table (4.2-8): Distribution of Respondents by Job rank

Job Rank	Frequency	Percentage
Resident	67	22.5
Specialist	123	41.3
Consultant	108	36.2
Total	**298**	**100.0**

The questionnaire was self-administered and there were some missing values

Also, these are very high numbers compared with the data from General Directorate of Hospitals in MOH (Hassounah, 2013) which show that 53.2% are residents and 46.8 % are specialists. This may be explained by that there are no clear and solid criteria for such titles of specialist or consultant; therefore, any physicians who had worked in a specific department for few years may consider him/herself as specialist or even consultant if he/she had worked for longer period.

2.2.2.5 Specialty

Table (4.2-9): Distribution of Respondents by Specialty shows that the specialties are distributed among all respondents as the following; General Practitioners (6.9%), Surgeons (30.3%), Internists (20.1%), Pediatrics (20.4%), Gynecologist/Obstetricians (5.9%), Ophthalmology (3.6%) and others (12.8%).

Table (4.2-9): Distribution of Respondents by Specialty

Specialty	Frequency	Percentage
General Practitioners	21	6.9
Surgeons	92	30.3
Internists	61	20.1
Pediatrics	62	20.4
Gynecologist & Obstetricians	18	5.9
Ophthalmologists	11	3.6
Others	39	12.8
Total	**304**	**100.0**

As indicated, there are no solid criteria for specialist title; therefore, the reported specialties in this study may be considered as the departments where the physicians work at. This may be confirmed by comparing the distribution of respondents per specialty with the distribution of respondents per departments in the next section.

2.2.2.6 Holding a Managerial Position

Table (4.2-10): Distribution of Respondents by Holding a Managerial Position shows that 32.9% of the respondents are holding managerial positions and 67.1% are not.

Table (4.2-10): Distribution of Respondents by Holding a Managerial Position

Holding a Managerial Position	Frequency	Percentage
Yes	100	32.9
No	204	67.1
Total	**304**	**100.0**

This number might be high as compared with a similar study by Fattuoh and Abu Hamad (2009) which shows that only 7.4% of MOH physicians in PHC centers are holding managerial positions. The researcher suggests that the political de facto divide between the Gaza Strip and West Bank clearly affects these managerial positions.

2.2.2.7 Participating in Committees

Table (4.2-11): Distribution of Respondents by Participating in Committees shows that 38.2% of respondents participate in scientific/Drugs/Referral committees and 61.8% do not.

Table (4.2-11): Distribution of Respondents by Participating in Committees

Participating in Committees	Frequency	Percentage
Yes	116	38.2
No	188	61.8
Total	**304**	**100.0**

Again this number is more than expected, the researcher suggests that the political de facto divide between the Gaza Strip and West Bank clearly affects these committees; as there are many positions may be hold by two persons at the same time, one was employed by Gaza and the other was employed by West Bank.

4.2.3 Practice Setting Characteristics

Practice setting characteristics of the respondents include seven items which are hospitals and departments where the physicians work at, having a private clinic and its location, working at NGOs, average number of patients treated by physician per day and average number of medical prescriptions prescribed by physicians per day. Each one of these characteristics will be descried in the following subsections

2.2.3.1 Hospital

Table (4.2-12): Distribution of Respondents by Hospital shows that the respondents are distributed among all 13 MOH hospitals in the Gaza Strip Governorates, and more than half of the respondents are from three hospitals which are Al-Shifa Hospital (28.3%), Naser Hospital (14.1%) and European Gaza Hospital (12.4%). The remaining respondents were distributed among other 10 hospitals.

Table (4.2-12): Distribution of Respondents by Hospital

Hospital	Frequency	Percentage
Al-Shifa Hospital	86	28.3
Nasser Hospital	43	14.1
European Gaza Hospital	38	12.4
Al-Aqsa Hospital	26	8.6
Kamal Odwan Hospital	14	4.6
Al-Najjar Hospital	20	6.6
Al-Naser Hospital	20	6.6
Beit Hanoun Hospital	14	4.6
Al-Dorrah Hospital	12	3.9
Al-Rantesi Hospital	11	3.6
Al-Helal (Emirate) Hospital	9	3.0
Gaza Eye Hospital	9	3.0
Gaza Psychological Hospital	2	0.7
Total	**304**	**100.0**

These results are similar to the actual distribution of the physicians among MOH hospitals in the Gaza Strip, according to data from General Directorate of Hospitals in MOH (Hassounah, 2013).

2.2.3.2 Department

Table (4.2-13): Distribution of Respondents by Department shows that the respondents are distributed among different hospitals' departments as the following; Reception and Emergency (4.6%), Surgeons (29.9%), Internists (21.1%), Pediatrics (21.7%), Gynecologist/Obstetricians (5.6%), Ophthalmology (3.6%), and others (13.5%).

Table (4.2-13): Distribution of Respondents by Department

Department	Frequency	Percentage
Reception and Emergency	14	4.6
Surgery	91	29.9
Internal Medicine	64	21.1
Pediatric	66	21.7
Gynecology & Obstetrics	17	5.6
Ophthalmology	11	3.6
Others	41	13.5
Total	**304**	**100.0**

These results highly match with the distribution of respondents per specialty, except for the general practitioners who are replaced by the reception and emergency department, as the majority of physicians who work in this department are general practitioners. This confirms the researcher's suggestion that there are no solid criteria for specialty title and most physicians considered themselves as specialists after they have worked in a specific department for few years.

Therefore, in this study department and specialty can be used as alternative. This is consistent with that pharmaceutical companies in the Gaza Strip classify physicians based on the departments they work at; they consider the department equivalent to specialty (Shurrab, 2014).

2.2.3.3 Having a Private Clinic

Table (4.2-14): Distribution of Respondents by Having a Private Clinic shows that the respondents are equally divided into having a private clinic (50%) and having no private clinic (50%).

Table (4.2-14): Distribution of Respondents by Having a Private Clinic

Having a Private Clinic	Frequency	Percentage
Yes	152	50.0
No	152	50.0
Total	**304**	**100.0**

This represents a high percentage as compared with Fattouh and Abu Hamad (2009) study which shows that only 30.8% of physicians have private clinic. The explanation is that Fattouh and Abu Hamad (2009) study's population was physicians who work at MOH primary healthcare, who are mostly general practitioners.

However, this percentage is considered very high and such situation may create a conflict of interest for physicians among their responsibilities to serve their patients in public MOH hospital and their gain and reputation from their private clinic.

2.2.3.4 Location of the Private Clinic

Table (4.2-15): Distribution of Respondents by Location of the Private Clinic shows that the vast majority of respondents' private clinics are located in Gaza City (42.1%), followed by Khanyounis (19.3%), Middle Zone (14.2%), Rafah (12.4%) and North (11.7%).

Table (4.2-15): Distribution of Respondents by Location of the Private Clinic

Location of the Private Clinic	Frequency	Percentage
North	17	11.7
Gaza	61	42.1
Middle	21	14.5
Khanyunis	28	19.3
Rafah	18	12.4
Total	**145**	**100.0**

The questionnaire was self-administered and there were some missing values.

This reflects the population distribution among the Gaza Strip governorates except for North zone; the number of private clinics in North area is less than its population distribution proportion (PCBS, 2014).

2.2.3.5 Working at NGOs

Table (4.2-16): Distribution of Respondents by Working at NGOs shows that the majority of physicians (72%) are not working at NGOs while the minority of physicians (28%) is.

Table (4.2-16): Distribution of Respondents by Working at NGOs

Working at NGOs	Frequency	Percentage
Yes	85	28.0
No	219	72.0
Total	**304**	**100.0**

If this percentage of respondents who are working at NGOs was added to the percentage of respondents who have a private clinic, it can be found that more than three quarters (78%) of respondents work in places other than MOH hospitals. Definitely they want to enhance their incomes, but this may increase the potential of conflict of interest.

2.2.3.6 Average Number of Patients Treated by Physician per Day

Table (4.2-17): Distribution of Respondents by Average Number of Patients Treated by Physician per Day shows that the average number of patients treated by the respondent -in all his/her working places- ranges between 2 and 50 patients with average of 21.8 patients per day. The majority of respondents (54.6%) treat 10 to 29 patients per day. Some respondents (19.8 %) treat 30 to 39 patients, few respondents (12.3 %) treat less number of patients between 2 to 10 patients and few respondents (13.3%) treat high number of patients between 40 up to 50 patients per day.

Table (4.2-17): Distribution of Respondents by Average Number of Patients Treated by Physician per Day

Average Number of Patients Treated by Physician per Day	Frequency	Percentage
Less than 10	36	12.3
10 - Less than 20	85	29.0
20 - Less than 30	75	25.6
30 - Less than 40	58	19.8
40 and more	39	13.3
Total	**293**	**100.0**

The average number of patients treated by physician per day ranges between 2 and 50 patients with mean 21.8 patients, (SD = 12.24). The questionnaire was self-administered and there were some missing values.

In the United States, the Medscape Survey (2014) shows that 62% of physicians reported seeing between 10 and 29 patients per day, 26% saw less than 10, and 12% saw 30 and more. By comparing these figures, it can be concluded that the vast majority of this study respondents see 10 to 29 patients per day as the United State. The problem is that one third of the respondents bear high workload –treat 30 patients and more- while 12.3 % of respondent bear low workload – treat less than 10 patients per day. It is a key to know if this workload is related to the working in private clinic or NGOs. If no, corrective actions should be taken by the decision makers in MOH to redistribute the workload fairly.

2.2.3.7 Average Number of Prescriptions Prescribed by Physician per Day

Table (4.2-18): Distribution of Respondents by Average Number of Prescriptions Prescribed by Physician per Day shows that the average number of prescriptions prescribed by the respondent - in all his/her working places- ranges between 0 and 50 with average of 16.73 prescriptions per day. The majority of respondents (52.9%) prescribe 10 to 29 prescriptions, (26.3%) of respondents prescribe less than 10 prescriptions and (20.8%) of respondents prescribe 30 up to 50 prescriptions per day.

Table (4.2-18): Distribution of Respondents by Average Number of Prescription Prescribed by Physician per Day

Average Number of Prescriptions Prescribed by Physician per Day	Frequency	Percentage
Less than 10	77	26.3
10 - Less than 20	103	35.2
20 - Less than 30	52	17.7
30 and more	61	20.8
Total	**293**	**100.0**

Average number of prescriptions prescribed by physician per day ranges between 0 and 50 with mean 16.73, (SD=12.30). The questionnaire was self-administered and there were some missing values.

These results clearly match with the average number of patients treated by physician per day, which is normal as most probably the treated patient will get a prescription from the physician.

In conclusion, the respondents' characteristics findings show that the study sample is representative, and the respondents are well qualified to deal and administer the study instrument.

4.3 Exposure to the Marketing Practices

One of the main objectives of this study is to identify the exposure of MOH hospitals' physicians to the marketing practices used by pharmaceutical companies in the Gaza Strip. Section 4.3 is designed to address this objective; this section includes three subsections which are:

- Exposure to overall marketing practices.
- Exposure to different marketing practices types
- Exposure by companies' types.

4.3.1 Exposure to Overall Marketing Practices

Table (4.3-1): Exposure of Respondents for Overall Marketing Practices shows that 95.1% of the respondents reported that they are exposed to one or more of the marketing practices of the pharmaceutical companies in the Gaza Strip.

Table (4.3-1): Exposure of Respondents for Overall Marketing Practices

Exposure to Overall Marketing Practices	Exposure
	95.10 %

This result indicates the high extent of exposure of study respondents to the marketing practices of pharmaceutical companies in the Gaza Strip. This matches with the results of Campbell, et al. (2004) study which found that 94% of physicians in the United States reported some types of the interactions with pharmaceutical companies and slightly below Zaki (2014) study in Saudi Arabia, who found that almost all physicians (99.5%) reported exposure to at least one of the marketing activities.

4.3.2 Exposure to Different Marketing Practices Types

In the following subsections, the researcher presents the exposure of respondents to each type of the marketing practices used by pharmaceutical companies in the Gaza Strip. As suggested before, the exposure of physicians to the marketing practices at any practice setting as MOH hospitals' can be described by the *extent of exposure* and the *frequency of exposure*, the researcher will use these two terms to describe the exposure of the respondents to the marketing practices of pharmaceutical companies in the Gaza Strip.

Table (4.3-2): Mean, Exposed Mean, Exposure Percentage of Respondents and Rank of Different Marketing Practices Types summarizes the extent and the frequency of exposure of the study respondents to the different marketing practices of pharmaceutical companies in the Gaza Strip.

Table (4.3-2): Mean, Exposed Mean, Exposure Percentage of Respondents and Rank of Different Marketing Practices Types

Marketing Practice	General Mean	Exposed Mean	Median	Exposure (%)	Rank
Number of PCs' representatives visit you per month	3.48	3.99	3.00	87.20	1
Total sum of visits of PCs representatives you have per month	4.32	4.95	3.00	87.20	NA
Number of times do you receive free medical samples from PCs' per month	3.32	3.90	3.00	86.20	2
Total sum of free medical samples do you receive from all PCs per month	8.47	9.95	4.00	86.20	NA
Number of times do you receive promotional printed materials from PCs' per year	3.44	4.78	2.00	72.00	5
Number of times do you receive gifts from PCs per year	1.34	3.45	0.001	38.80	6
Number of times do you attend local scientific conferences or CME lectures sponsored by PCs per year	3.23	4.01	2.00	80.60	3

Marketing Practice	General Mean	Exposed Mean	Median	Exposure (%)	Rank
Number of times do you attend meeting or lectures organized by PCs per year	2.94	3.78	2.00	77.60	4
Number of times did you ever attend foreign conference sponsored by PCs	0.47	2.55	0.001	18.40	7
Number of time did you participate in scientific study funded by PCs	0.33	2.30	0.001	14.50	9
Number of times did you receive honorarium from PCs for speaking or consulting.	0.15	3.21	0.001	4.60	10
Number of times do you encounter by direct to consumers (patients) advertising of PCs per year	0.48	2.92	0.001	16.40	8

NA: Not Applicable

As shown in Table (4.3-2), there are two means; the first is the general mean which is the mean of exposure to each type of the marketing practice for all physicians who are exposed and unexposed to the marketing practice, but the second one is the mean of exposure to each type of the marketing practice for exposed physicians only. The researcher called the second mean by "Exposed Mean" which is more valid - used in the literature - to evaluate the extent of the exposure and to be compared with previous studies.

4.3.1.1 Exposure to PCRs' Visiting and Detailing

As shown in Table (4.3-2), PCRs' visiting and detailing are ranked as the first commonly used type of the marketing practices by the pharmaceutical companies in the Gaza Strip , as 87.2% of respondents are visited by PCRs. This result is similar to the extent of exposure that suggested by Moynihan (2003) who estimated that in most countries 80-90% of physicians are visited by PCRs, and similar to the result was shown in Britain, Canada, New Zealand and the United States which estimated that 85-90% of physicians see PCRs (Lexchin, et al., 2009). This result is slightly lower than that was shown in Libya (94%) by Alssageer and Kowalski (2012) and that shown in Japan (98%) by Saito, et al. (2010). In contrast this result is much higher than the lowest estimated exposure shown in Saudi Arabia (41%) by Alosaimi, et al. (2013b).

As shown in Table (4.3-2), each respondent is visited by 3.99 PCRs per month, while the frequency of visits per physician per month is 4.95, on average. This frequency is higher than that found in the United States by Wazana (2000) and Lexchin (2009) and that found in Germany by Lieb and Brandtönies (2010) which is, on average, 4 visits per month. Also it is higher than that found by Alssageer and Kowalski, (2012) in Libya who show that respondents meet with PCRs by range between least once a month and once a week. This

frequency is still below the highest frequency was shown in Japan (7 times per month) by Saito, et al. (2010).

The researcher may conclude that the extent of the exposure of MOH hospitals' to PCRs visiting and detailing in the Gaza Strip comes within the range that is suggested by the literature in other countries, which is considered a high extent of exposure. Meanwhile, in the Gaza Strip, the PCRs are doing more frequent visits to physicians than the majority of other countries. The high exposure of MOH Hospitals' physicians to the marketing practices in the Gaza Strip may be explained by the huge number of pharmaceutical companies include foreign, local, Israeli, Drug wholesalers, and may be Egyptian companies, which employed squadron of PCRs who compete on small piece of cake.

4.3.1.2 Exposure to Promotional Printed Materials Distributing

As shown in Table (4.3-2), the promotional printed materials distributing is ranked as the fifth commonly used type of the marketing practice by the pharmaceutical companies in the Gaza Strip , as 72% of respondents reported that they receive promotional printed materials form pharmaceutical companies with average frequency of 4.78 times per year.

This result matches with Alssageer and Kowalski (2012) study in Libya who found that 79% of physicians receive at least one printed materials. At same time it is higher than Zaki (2014) study in Saudi Arabia who found that 62% of physicians had received such materials.

The researcher suggests that promotional printed materials still have a space in the Gaza Strip as pharmaceutical marketing tools despite the advent of technology and the trend of some companies to use some digital tools (Shurrab, 2014).

4.3.1.3 Exposure to Free Medical Samples Distributing

As shown in table (4.3-2), the free medical samples distributing is ranked as the second commonly used type of the marketing practice by the pharmaceutical companies in the Gaza Strip, as 86.2% of respondents reported that they receive free medical samples from PCRs. Also, on average, each respondent receive free medical samples by 3.90 times per month, while the total number of samples received by each respondent is 9.95 samples per month.

This result matches with the findings of many studies which found that the free medical samples distributing is one of the most common practices but, the extent of exposure in the Gaza Strip is somewhat higher than that shown in other countries such as Japan (85%) by Saito, et al. (2010), the United States (78%) by Campbell, et al. (2007), Libya (69%) by Alssageer and Kowalski (2012), and Saudi Arabia (42%) by Zaki (2014).

The researcher explained this by the prominent role of local pharmaceutical companies which use free medical samples distributing as the main marketing tool with the absence of effective regulations that control free medical samples distributing (Mehadi, 2014).

4.3.1.4 Exposure to Gifts Giving

As shown in Table (4.3-2), the gifts giving is ranked as the sixth used type of the marketing practices by the pharmaceutical companies in the Gaza Strip, which may considered as moderately used in comparing with previous marketing practices. Only 38.8% of respondents reported that they receive gifts from pharmaceutical companies, with average frequency of 3.45 times per year.

This result is completely different from findings in other countries which confirm that gifts are more commonly used by pharmaceutical companies such as Japan, Germany, Nigeria and Libya, with range is between 96% to 79% (Ijoma, et al., 2010; Sait, et al., 2010; Lieb & Brandtönies, 2010; Alssageer & Kowalski, 2012).

Two studies show much higher frequency of exposure than this result, by 6 gifts per year (Wazana, 2000) and once to twice per month (Saito, et al., 2010). The researcher may suggest some possible reasons; unavailability of good quality gifts, inability to import gifts due to siege, or social-cultural beliefs.

4.3.1.5 Exposure to Non-Promotional Events Sponsoring

As shown in Table (4.3-2), the non-promotional events sponsoring which include CME lectures and local scientific conferences is ranked as the third commonly used type of the marketing practice by the pharmaceutical companies in the Gaza Strip, as 80.6% of respondents attend non-promotional events, with average frequency of 4.01 events are attended by physician per year.

This result matches with Saito, et al. (2010) study in Japan (80%) and Campbell, et al. (2007) study in the United States (83%). Also, this result is slightly higher than Masood, et al. (2012) study in Pakistan (69.2%) and much higher than Rutledge, et al. (2003) Study in the United Kingdom (50%).

Regarding the frequency of non-promotional events attended by physicians per year, Lexchin (2009) estimated that the frequency of CME events by 1.9 CME lectures per physicians in two years, which is too much below this finding of this study by 4.01 events per physician per year.

The researcher may conclude that this is a good contribution for the pharmaceutical companies in the Gaza Strip and may reflect the willing of MOH hospitals' to arrange such activities and conferences.

4.3.1.6 Exposure to Promotional Events Organizing

As shown in Table (4.3-2), the promotional events organizing is ranked as the fourth commonly used type of the marketing practice by pharmaceutical companies in the Gaza Strip, as 77.6% of respondents attend promotional events of pharmaceutical companies such as drugs' presentations at group meetings and round table discussions and drugs' launches and symposia, with average frequency of 3.78 events per physician per year.

This is much higher than other countries studies such as Japan (49%), Saudi Arabia (37.8%) and Pakistan (15.8%) by Saito, et al. (2010), Alosaimi, et al. (2013b) and Masood, et al. (2012) respectively. Regarding to the frequency of promotional events attended by physician per year, Lexchin (2009) estimated that the frequency of such promotional events by 5.2 promotional meeting per two year per physician, which below the frequency of such events in the Gaza Strip. These results clearly confirm the reliance of pharmaceutical companies on this marketing practice.

4.3.1.7 Exposure to Foreign Conferences Travel Sponsoring

As shown in Table (4.3-2), the foreign conferences travel sponsoring is ranked as the seventh used type of the marketing practices by pharmaceutical companies in the Gaza Strip, which less commonly as compared with other marketing practices. Only 18.4% of respondents reported that they are sponsored by pharmaceutical companies to attend foreign conferences, with average frequency of 2.55 per physician.

From these data the researcher may suggests that this practice seems to be used for small group of physicians which may represent the key opinion leaders in the market who have influence on drug choices decisions. Despite of this small number this result is higher than that shown in Saudi Arabia Zaki (2014) found that only 3.6 % of physicians were sponsored to foreign conference.

4.3.1.8 Exposure to Scientific Studies Funding

As shown in Table (4.3-2), scientific studies are ranked as the ninth type of the marketing practices used by the pharmaceutical companies in the Gaza Strip, which is less commonly used as compared with other practices. Only 14.5% of respondents reported that they participate in scientific studies funded by pharmaceutical companies, with average frequency of exposure by 2.3 per physician.

This result is below the percentage shown in the United States by Ashar, et al. (2004) who found that one third of physicians engaged in clinical trial supported by pharmaceutical companies. Lexchin (2009) estimated that the average of participation of physicians in company- sponsored drug trials by about 1 in two years, which higher than our finding.

This may be explained by that the Gaza Strip is not the suitable environment for conducting such clinical trials for large multinational companies due to many technical and political factors. In contrast, local pharmaceutical companies do not conduct such scientific studies in the Gaza Strip and they did market research only (Balawi, 2013).

4.3.1.9 Exposure to Honoraria Paying

As shown in Table (4.3-2), honoraria paying are ranked as the tenth and the least used type of the marketing practices by pharmaceutical companies in the Gaza Strip. Only 4.6% of respondents reported that pharmaceutical companies paid to them honoraria for services they provide to pharmaceutical companies as speaking or consulting with average frequency of exposure by 3.21 per physician.

This result is far below the extents shown in other countries as the United States (53%) by Morgan, et al. (2006), (34%) by Birkhahn, et al. (2010), and (28%) by Campbell, et al. (2007). Also, it is below the percentage of (33%) shown in other Arab counties studies as Libya and Saudi Arabia by Alssageer & Kowalski (2012) and Alosaimi, et al. (2013b) respectively.

Honoraria paying seem to be used by pharmaceutical companies for a small group of physicians who represent the key opinion leaders in the market, similar to foreign conferences travel sponsoring. The researcher suggests that it is good for honoraria paying to be the least commonly used marketing practices in the Gaza Strip compared with other countries. Nevertheless, this low extent of exposure to honoraria paying in the Gaza Strip may be more dangerous on medicine practice and patients' interest than much higher extents shown in other countries, if the regulations that control and monitor these honoraria are still absent as Palestine situation.

4.3.1.10 Exposure to DTC Advertising

As shown in Table (4.3-2), the DTC advertising is ranked as the eighth used type of the marketing practices by pharmaceutical companies in the Gaza Strip, which is less commonly used as compared with other practices. Only 16.4% of respondents reported that patients are encountered them by DTC advertising, with average frequency of exposure by 2.92 per physicians per year. This is far different from the United States survey which shows that 92% of physicians reported exposure to DTC advertising (Aikin, 2004).

The researcher explains this by that in the United State DTC advertising is allowed for both POM and OTC drugs, and the pharmaceutical market is highly driven by DTC advertising where the survey shows that one-third of American adults had discussed a DTC advertising medication with their physicians and that 1 in 10 had received a prescription in response to their inquiry (Rosenthal, et al., 2003). Therefore, it seems that the concept of DTC advertising in the Gaza Strip is still not well established among public and/or not well adopted by pharmaceutical companies.

*In summary***,** all 10 types of marketing practices are used by the pharmaceutical companies in the Gaza Strip and the marketing practices of pharmaceutical companies can be classified into three categories according to the extent of exposure of respondents:

- *The first category is* the commonly used marketing practices which include the following; PCRs' visiting and detailing (87.2%), free medical samples distributing (86.2%), non-promotional events sponsoring (80.6%), promotional events organizing (77.6%) and promotional printed materials distributing (72.6%).
- *The second category is* the moderately used marketing practices which include only the gifts giving (38.8%).
- *The third category is* the least commonly or rarely used marketing practices which include the following; foreign conference travel sponsoring (18.4%), DTC advertising (16.4%), scientific studies funding (14.5%), and honoraria paying (4.6%).

4.3.3 Exposure to the Marketing Practices by Companies' Types

Finding out the exposure of MOH hospitals' physicians by companies' types is one of the objectives of this study. Section 4.3.3 is designed to address this objective.

Table (4.3-3): Exposure of Respondents to the Marketing Practices by Companies' Types summarizes the percentage of respondents who mostly exposed to each type of the marketing practices by companies types in the Gaza Strip.

Table (4.3-3): Exposure of Respondents to Marketing Practice by Companies Types

Responses	No one	Drug wholesaler	Egyptian	Israeli	Local	Foreign
Most of PCs representatives visit you are from	13.2	0.7	0.0	0.7	77.0	8.6
Most of promotional printed materials you receive are from	28.9	0.7	0.0	2.0	44.1	24.3
Most of free medical samples you receive are from	15.1	0.7	0.0	0.3	77.3	6.6
Most of gifts you received are from	65.8	0.3	0.0	0.7	28.3	4.9
Most of local scientific conferences and CME lectures you attend are sponsored by	19.7	0.3	0.0	0.3	51.0	28.6
Most of meeting and lectures of PCs you attend are organized by	24.3	0.3	0.0	1.0	47.7	26.6
Most of foreign conferences you attended were sponsored by	83.7	0.0	0.0	0.0	3.9	12.5
Most of your participations in PCs' scientific studies were funded by	88.2	0.0	0.0	0.0	5.3	6.6
Most of honoraria paid to you were From	97.0	0.3	0.0	0.0	1.0	1.6
Most of direct to consumer advertising of PCs you encountered are from	85.9	0.3	0.0	0.0	6.6	7.2
Exposure to marketing practices by companies' types	**52.2**	**0.4**	**0.0**	**0.5**	**34.3**	**12.6**

As shown in Table (4.3-3), the respondents reported that they are mostly exposed to marketing practices from local companies (34.3%), foreign companies (12.6%), Israeli companies (0.5%), Egyptian companies (0%), Drug wholesalers (0.4%) and no company (52.2%). These indicate that in general, the physicians exposure to the marketing practice of pharmaceutical companies in the Gaza Strip is prominent by local and then by foreign pharmaceutical companies, with very low presence for Israeli companies and Drug wholesalers. Although no respondent reported that he/she is mostly exposed to marketing practices of Egyptian companies, these data cannot confirm the absence of the marketing practices of Egyptian Companies; because some drugs of Egyptian companies are actually registered in MOH and they promote their drugs to physicians (Mehadi, 2014).

As shown in Table (4.3-3), comparing local companies with foreign companies for each type of marketing practices revealed that the respondents reported that they are mostly exposed to local companies higher than foreign companies in some marketing practices which are PCRs' visiting and detailing (77.0% vs. 8.6%), Free medical samples distributing (77.3% vs 6.6%), promotional printed materials distributing (44.13 % vs. 24.3%), gifts giving (28.3 % vs. 4.9%), non-promotional events sponsoring (51.0% vs. 28.6%) and promotional events organizing (47.7% vs. 26.6%). In contrast, the respondents reported that they are mostly exposed to foreign companies higher than local companies in some marketing practices which are foreign conferences travel sponsoring (12.5% vs. 3.6%), scientific studies funding (6.6% vs. 5.3%), honoraria paying (1.6% vs. 1.0%), and DTC advertising (7.2 vs. 6.6%).

By comparing the percentages of each type of marketing practice to the percentage of PCRs visiting and detailing for local companies, researcher suggests that the local companies strongly relay on free medical samples distributing (77.0% PCRs' visiting and detailing vs. 77.3% Free medical samples distributing). In the same manner, by comparing the percentages of each type of the marketing practice to the percentage of PCRs visiting and detailing for foreign companies, researcher suggests that foreign companies rely more on promotional printed materials distributing (8.6% PCRs' visiting and detailing vs. 24.3% Promotional printed materials distributing), non-promotional events sponsoring (8.6% PCRs' visiting and detailing vs. 28.6 % Non-promotional events sponsoring), promotional events organizing (8.6% PCRs' visiting and detailing vs. 26.6% Promotional events organizing), and foreign conference travel sponsoring (8.6% PCRs' visiting and detailing % vs. 12.5% Foreign conference travel sponsoring).

4.4 Attitudes of Physicians toward the Marketing Practices

One of the main objectives of this study is to explore the attitudes of MOH hospitals' physicians toward the marketing practices of pharmaceutical companies in the Gaza Strip. Section 4.4 is designed to address this objective; this section includes four subsections which are:

- Attitude to overall marketing practices.

- Attitude to different marketing practices types.
- Attitude to information provided through marketing practices.
- Attitude by companies' types.

4.4.1 Attitude toward Overall Marketing Practices

To measure the attitude of MOH hospitals' physicians toward all marketing practices in general, the mean of all attitude's paragraphs in the questionnaire from (41) to (75) was calculated.

Table (4.4-1): Mean and Test Value for "Attitudes toward Overall Marketing Practices" shows that the mean for "Attitudes toward overall marketing practices" equals 3.49 (69.72%), Test-value = 17.840, and P-value ≤ 0.001 which is smaller than the level of significance $\alpha = 0.05$. The sign of the test is positive, so the mean of this field is significantly greater than the hypothesized value 3. It is concluded that the respondents agreed to the field of "Attitudes toward Overall Marketing Practices".

Table (4.4-1): Mean and Test Value for "Attitudes toward Overall Marketing Practices"

Field	Mean	Mean (%)	Test value	P-value
Attitudes toward Overall Marketing Practices	**3.49**	**69.72**	**17.840**	**0.000***

* The mean of the total attitude is significantly different from 3

This result indicates that respondents have positive attitude toward the marketing practices in general, in other words, they have positive overall attitude. This result matches with the results of many studies which documented that most physicians have a positive attitude toward overall marketing practices (Korenstein, et al. 2010; Appiah-Kubi 2011; Al-Areefi, et al. 2013; Ijoma, et al. 2010; Nakayama, 2010).

This positive attitude toward marketing practices may be explained by the benefits that physicians may obtain from these practices which include; *scientific benefits* such as prescribing of innovative drugs which provide better health outcomes (Spurling. et al., 2010), adding variety day- to- day clinical practice, and bringing new innovations and up-to- date knowledge to his/her patients (Ashar, et al., 2004).

Social and *Psychological benefits* such as providing free medical samples to help some indigent people by giving them access to appropriate therapy or providing patient with some medical devices or educational materials to help them in treatment may enhance social status of physician (Adair & Holmgren, 2005), and such as being company consultant for research or being company speaker enhance the prestige and the reputation of the physician (Ashar, et al., 2004).

Financial benefits such as receiving an honorarium for speaking at a professional meeting or recruitment of patients in clinical trial (Albersheim & Golan, 2011). All these are accepted and ethical benefits even the financial one if they do not affect physician's independency for clinical decisions and do not create conflict of interest between physician's personal interest from pharmaceutical companies and physician's responsibilities for his/her patients' care as a professional.

4.4.2 Attitudes toward Different Marketing Practices Types

In the following subsections of this section, the researcher presents the attitudes of respondents to each type of the marketing practices used by pharmaceutical companies in the Gaza Strip.

4.4.2.1 Attitude toward PCRs' Visiting and Detailing

Table (4.4-2): Mean and Test Value for "Attitudes toward PCRs' Visiting and Detailing" shows that the mean of the field "Attitudes toward PCRs' visiting and detailing" equals 3.78 (75.56%), Test-value = (18.263), and P-value ≤ 0.001 which is smaller than the level of significance $\alpha = 0.05$. The sign of the test is positive, so the mean of this field is significantly greater than the hypothesized value 3. It is concluded that the respondents agreed to field of "Attitudes toward PCRs' visiting and detailing**".**

Table (4.4-2): Mean and Test Value for "Attitudes toward PCRs' Visiting and Detailing"

No.	Paragraph	Mean	Mean (%)	Test value	P-value	Rank
1	PC representatives' visits are important for physicians.	3.99	79.80	20.035	0.000*	1
2	PC representatives' visits achieve mutual interest	3.75	74.93	13.095	0.000*	3
3	PC representatives' detailing is important source of information about drugs.	3.89	77.76	16.711	0.000*	2
4	PC representatives' detailing includes credible information.	3.49	69.74	9.272	0.000*	4
	Attitudes toward PCRs' Visiting and Detailing	3.78	75.56	18.263	0.000*	

* The mean is significantly different from 3

These results indicate that the respondents have positive attitude toward PCRs' visiting and detailing, which match with the results of many new studies which confirm that most physicians have positive attitudes toward PCRs' visiting and detailing, and they do not view relationships with PCRs as ethically problematic (Krenstein, et al., 2010; Al-Areefi, et al., 2013; Nakayama, 2010; Brett, et al. 2003). In contrast, these results contradict with the old studies which found that the attitudes of physicians toward PCRs' visiting and detailing

are mostly negative (McKinney, et al., 1990; Poirier, et al., 1994; Strang, et al., 1996). Also, differ from some studies which found that the attitudes of physicians toward PCRs' visiting and detailing are neutral (Thomson, et al., 1994; Andaleeb and Tallman's, 1996; Manchanda, et al., 2005).

Chronological, the old studies show negative to neutral attitudes of physicians toward PCRs' visiting and detailing while, new studies show positive attitudes, as research observed. This is explained by the big change in the skills, knowledge and behaviours of PCRs in last decades and the huge investment in their training to be more personable, friendly, attentive, persuasive, pervasive, flexible, creative and helpful (Wazana, 2000). The case in the Gaza Strip is the same as large investment is employed for the development of PCRs skills and behaviours by pharmaceutical companies especially for foreign one (Masroujah, 2014; Shurrab, 2014).

4.4.2.2 Attitude toward Promotional Printed Materials Distributing

Table (4.4-3): Mean and Test Value for "Attitudes toward Promotional Printed Materials Distributing" shows that the mean of the paragraph No. 3 "Promotional printed materials of pharmaceutical companies include balanced information about competitors" equals 3.01 (60.26%), Test-value = 260, and P-value = 0.795 which is greater than the level of significance $\alpha = 0.05$. Then, the mean of this paragraph is insignificantly different from the hypothesized value 3. It is concluded that the respondents (Do not know, neutral) to this paragraph. This means that the respondents do not give concrete answer about this paragraph. The researcher suggests that the physicians, in general, are not well trained, or have no time to make such appraisal for promotional printed materials of pharmaceutical companies (Anderson, 2009).

Table (4.4-3): Mean and Test Value for "Attitudes toward Promotional Printed Materials Distributing"

No.	Paragraph	Mean	Mean (%)	Test value	P-value	Rank
1	Promotional printed materials have scientific value.	3.67	73.36	14.209	0.000*	1
2	Promotional printed materials include credible information.	3.54	70.72	11.083	0.000*	2
3	Promotional printed materials include balanced information about competitors.	3.01	60.26	0.260	0.795	4
4	Promotional printed materials include inform. about drug's warnings and side effects.	3.39	67.77	7.141	0.000*	3
	Attitudes toward Promotional Printed Materials Distributing	3.40	68.10	10.192	0.000*	

* The mean is significantly different from 3

Generally, the mean of the field "Attitudes toward Promotional Printed Materials Distributing" equals 3.40 (68.10%), Test-value = 10.192, and P-value ≤ 0.001 which is

smaller than the level of significance $\alpha = 0.05$. The sign of the test is positive, so the mean of this field is significantly greater than the hypothesized value 3. It is concluded that the respondents moderately agreed to field of "Attitudes toward Promotional Printed Materials Distributing". Therefore, the respondents have moderately positive attitude toward promotional printed materials distributing.

The researcher suggests that promotional printed materials distributing still has a value for physicians as a source of information about drugs, but it becomes less accepted as information is now available and widespread by electronic digital tools. Generally, the previous studies did not evaluate the attitude of physicians toward promotional printed materials but seek to explore the attitude toward the information provided by pharmaceutical companies through these promotional materials, which will be discussed later.

4.4.2.3 Attitude toward Free Medical Samples Distributing

Table (4.4-4): Mean and Test Value for "Attitude toward Free Medical Samples Distributing" shows that the mean of the field "Attitudes toward free medical samples distributing" equals 3.35 (66.98%), Test-value = 6.945 and P-value ≤ 0.001 which is smaller than the level of significance $\alpha = 0.05$. The sign of the test is positive, so the mean of this field is significantly greater than the hypothesized value 3. It is concluded that the respondents moderately agreed to field of "Attitude toward Free Medical Samples Distributing". Therefore, the respondents have moderately positive attitude toward free medical samples distributing.

Table (4.4-4): Mean and Test Value for "Attitudes toward Free Medical Samples Distributing"

No.	Paragraph	Mean	Mean (%)	Test value	P-value	Rank
1	Free medical samples broaden physicians' experience about drug.	3.51	70.26	8.600	0.000*	1
2	Free medical samples encourage physicians to prescribe more effective drugs.	3.38	67.70	6.430	0.000*	2
3	Free medical samples match with patient's interest.	3.20	64.03	3.477	0.001*	4
4	Free medical samples distributing improve physicians' professionalism.	3.30	65.92	4.430	0.000*	3
	Attitudes toward Free Medical Samples Distributing	3.35	66.98	6.945	0.000*	

* The mean is significantly different from 3

This result matches with large number of studies which confirm the positive attitude and the acceptance of free medical samples (Morgan, et al., 2006; Sharma, et al., 2010; Alosaimi, et al., 2013b). It is normal for a physician to have positive attitude toward free medical samples because free medical samples are allowing physicians to initiate treatment

immediately, to demonstrate proper use of the drug, to evaluate adverse effects and to help some indigent patients by giving them access to appropriate therapy that they might not have been able to afford (Adair & Holmgren, 2005).

In the Gaza Strip, the situation is more complex, there is strong reliance on free medical samples –especially from local companies as exposure data show, no regulations to control pharmaceutical companies' samples distributing, original full package samples -not reduced nor stamped- may be distributed and there are no guidelines govern and monitor free medical sample use by physicians (Mehadi, 2014). All these factors may make free medical samples more valuable as marketing tool for some physicians. At the same time, these facts raise a big controversy about the ethical use of free medical samples in the Gaza Strip and this may divert this positive attitude regarding free medical samples distributing by other groups of physicians.

4.4.2.4 Attitude toward Gifts Giving

Table (4.4-5): Mean and Test Value for "Attitude toward Gifts Giving" shows the following results:

- The mean of the paragraph No. 1 "It is acceptable to receive gifts from PC" equals 3.09 (61.72%), Test-value = 1.325, and P-value = 0.186 which is greater than the level of significance $\alpha = 0.05$. The mean of this paragraph is insignificantly different from the hypothesized value 3. It is concluded that the respondents (Do not know, neutral) to this paragraph.
- The mean of the paragraph No. 3 "Gifts given from PCs are ethical" equals 3.09 (61.85%), Test-value = 1.479, and P-value = 0.140 which is greater than the level of significance $\alpha = 0.05$. The mean of this paragraph is insignificantly different from the hypothesized value 3. It is concluded that the respondents (Do not know, neutral) to this paragraph
- The mean of the paragraph No. 4 "Gifts given from PCs do not create conflict of interest for physician equals 2.90 (57.99%), Test-value = -1.617, and P-value = 0.107 which is greater than the level of significance $\alpha = 0.05$. The mean of this paragraph is insignificantly different from the hypothesized value 3. It is concluded that the respondents (Do not know, neutral) to this paragraph. This means that the respondents do not give concrete answer about this paragraph due to the controversy associated with gifts giving.

This means that the respondents do not give concrete answer about these paragraphs due to the controversy associated with gifts giving.

Table (4.4-5): Mean and Test Value for "Attitude toward Gifts Giving"

No.	Paragraph	Mean	Mean (%)	Test value	P-value	Rank
1	It is acceptable to receive gifts from PCs.	3.09	61.72	1.325	0.186	3
2	Gifts given from PCs improve physicians' relationship with PCs.	3.34	66.73	5.282	0.000*	1
3	Gifts given from PCs are ethical.	3.09	61.85	1.479	0.140	2
4	Gifts given from PCs don't create conflict of interest for physician.	2.90	57.99	-1.617	0.107	4
	Attitude toward Gifts Giving	3.10	62.02	2.106	0.036*	

* The mean is significantly different from 3

In general, the mean of the field "Attitude toward Gifts Giving" equals 3.10 (62.02%), Test-value = 2.106, and P-value = 0.036 which is smaller than the level of significance $\alpha = 0.05$. The sign of the test is positive, so the mean of this field is significantly greater than the hypothesized value 3. It is concluded that the respondents agreed to field of "Attitude toward Gifts Giving".

The attitude of the respondents toward gifts giving is considered weak as compared with that attitudes shown in other countries' studies which confirm that most physicians have strong positive attitude toward gifts giving and they accept, approve and admit it (Chimonas, 2007; Morgan, et al., 2006; Alosaimi, et al., 2013b; Alssageer and Kowalski, 2013; Appiah-Kubi, 2011). Meanwhile, the contradictory in the previous studies was about the type of gifts which may be considered unethical (Sharma, et al., 2010), it seems that the study respondents have weak positive attitude toward gifts giving as a marketing practice in general.

The researcher suggests some possible explanations. First is that the gift giving is not well established marketing practice in the Gaza Strip as exposure results show; only 38.8% were exposed to gifts giving with average of 1.34 gift per year which is very low as compared with Saito, et al. (2010) who suggested an average of once to twice per month. The second is that the word "gifts" may be perceived as unethical gifts and the respondents do not consider simple gifts as pens, bags, anatomical models under this practice, this may be explained by market insights where physicians accept such simple gifts from PCRs (Shurrab, 2014). The third is that the gifts giving may be associated with some socio-cultural factors which may perceive it to undermine integrity. Another explanation is that the types of gifts giving from pharmaceutical companies in the Gaza Strip may be not worthy as those distributed in other countries. The researcher suggests that qualitative research is needed to deeply dig about how this weak attitude was formed while other countries show a strong positive one.

4.4.2.5 Attitude toward Non-Promotional Events Sponsoring

Table (4.4-6): Mean and Test Value for "Attitude toward Non-Promotional Events Sponsoring shows that the mean of the overall of the field "Attitude toward Non-Promotional Events Sponsoring" equals 4.07 (81.34%), Test-value = 29.147, and P-value ≤ 0.001 which is smaller than the level of significance $\alpha = 0.05$. The sign of the test is positive, so the mean of this field is significantly greater than the hypothesized value 3. It is concluded that the respondents strongly agreed to field of "Attitude toward Non-Promotional Events Sponsoring)".

Table (4.4-6): Mean and Test Value for "Attitude toward Non-Promotional Events Sponsoring"

No.	Paragraph	Mean	Mean (%)	Test value	P-value	Rank
1	It is acceptable to attend local scientific conferences and CME lectures sponsored by PCs.	4.18	83.68	27.922	0.000*	1
2	Physicians appreciate the sponsoring of PCs to local scientific conferences and CME lectures.	4.10	82.05	23.951	0.000*	2
3	The hospitality accompanying local scientific conferences and CME lectures encourage physicians' attendance.	3.91	78.29	18.075	0.000*	3
	Attitude toward Non-Promotional Events Sponsoring	4.07	81.34	29.147	0.000*	

* The mean is significantly different from 3

This result indicates that the respondents have strong positive attitude toward non-promotional events sponsoring by pharmaceutical companies in the Gaza Strip. This matches with the McKinney, et al. (1990) who found that physicians acknowledge pharmaceutical companies support for conferences, Carney, et al. (2001) who found that 80 % to 90% of physicians support a greater role of industry-funded independent CME, and Nakayama (2010) who confirmed that physicians, in general, are not concerned about the impact of free food provided by pharmaceutical companies in such events.

This attitude appears to be the strongest attitude among all attitudes toward other marketing practices. The researcher suggests that the scientific value, topics, speakers, quality of such activities, and hospitality may account for such strong positive. Qualitative studies are needed to deeply assess this strong positive attitude and how to utilize this to improve medicine practice for patients' benefit.

4.4.2.6 Attitude toward Promotional Events Sponsoring

Table (4.4-7): Mean and Test value for "Attitude toward Promotional Events Organizing" shows that the mean of the field "Attitude toward Promotional Events Organizing, equals 3.82 (76.45%), Test-value = 24.589, and P-value ≤ 0.001 which is smaller than the level of significance $\alpha = 0.05$. The sign of the test is positive, so the mean of this field is significantly greater than the hypothesized value 3. It is concluded that the respondents agreed to field of "Attitude toward Promotional Events Organizing". This result indicates that the respondents have positive attitude toward promotional events organizing.

Table (4.4-7): Mean and Test Value for "Attitude toward Promotional Events Organizing"

No.	Paragraph	Mean	Mean (%)	Test value	P-value	Rank
1	It is acceptable to attend meetings and lectures organized by PCs.	4.11	82.11	31.331	0.000*	1
2	The meetings and lectures of PCs have scientific value.	3.98	79.54	25.348	0.000*	2
3	The meetings and lectures of PCs are credible.	3.69	73.80	15.780	0.000*	3
4	The meetings and lectures of PCs include balanced information about benefits and risk of drug.	3.52	70.33	10.667	0.000*	4
	Attitude toward Promotional Events Organizing	3.82	76.45	24.589	0.000*	

* The mean is significantly different from 3

This result matches with other studies which confirm the positive attitude toward promotional events organizing such as Morgan, et al., (2006) and Carney, et al., (2001). Same suggestions are brought by the researcher to explain this positive attitude as scientific value, topics, speakers, quality of these activities, and hospitalities may account for such attitude.

4.4.2.7 Attitude toward Foreign Conferences Travel Sponsoring

Table (4.4-8): Mean and Test Value for "Attitude toward Foreign Conferences Travel Sponsoring" shows that the mean of the overall field "Attitude toward Foreign Conferences Travel Sponsoring" equals 3.94 (78.82%), Test-value = 25.299, and P-value ≤ 0.001 which is smaller than the level of significance $\alpha = 0.05$. The sign of the test is positive, so the mean of this field is significantly greater than the hypothesized value 3. It is concluded that the respondents agreed to field of "Attitude toward Foreign Conferences Travel Sponsoring".

Table (4.4-8): Mean and Test Value for "Attitude toward Foreign Conferences Travel Sponsoring"

No.	Paragraph	Mean	Mean (%)	Test value	P-value	Rank
1	It is acceptable to attend foreign conferences travel sponsored by PCs.	4.15	83.09	28.080	0.000*	1
2	Foreign conferences travel sponsored by PCs has scientific value.	4.00	80.00	22.135	0.000*	2
3	Attending foreign conference sponsored by PCs doesn't undermine professionalism.	3.67	73.36	12.124	0.000*	3
	Attitude toward Foreign Conferences Travel Sponsoring	3.94	78.82	25.299	0.000*	

* The mean is significantly different from 3

This result indicates that the respondents have positive attitude toward foreign conferences travel sponsoring. This may be explained by same factors brought for non-promotional and promotional events. Additional factors may be added as getting new knowledge, updating medical practice, exchanging experience with the top expert at regional and international level and contacting with new cultures. Besides these benefits, travelling is a desire for everyone who lives in the Gaza Strip due to the siege.

4.4.2.8 Attitude toward Scientific Studies Funding

Table (4.4-9): Mean and Test Value for "Attitude toward Scientific Studies Funding" shows that the mean of the field "Attitude toward Scientific Studies funding" equals 3.81 (76.12%), Test-value = 21.620, and P-value $\leq$ 0.001 which is smaller than the level of significance $\alpha = 0.05$. The sign of the test is positive, so the mean of this field is significantly greater than the hypothesized value 3. It is concluded that the respondents agreed to field of "Attitude toward Scientific Studies Funding".

Table (4.4-9): Mean and Test Value for "Attitude toward Scientific Studies Funding"

No.	Paragraph	Mean	Mean (%)	Test value	P-value	Rank
1	It is acceptable to participate in scientific studies funded by PCs.	3.98	79.61	23.677	0.000*	1
2	Scientific studies funded by PCs have scientific value.	3.85	76.97	19.811	0.000*	2
3	Scientific studies funded by PCs adhere with ethics of scientific research.	3.59	71.78	12.978	0.000*	3
	Attitude toward Scientific Studies Funding	3.81	76.12	21.620	0.000*	

* The mean is significantly different from 3

This result indicates that the respondents has positive attitude toward scientific Studies funding by pharmaceutical companies. This result contradicts with the results of two studies which confirm that the physicians are concerned and worried about such scientific studies funding (Lexchin, 2009; Alosaimi, et al., 2013b).

The researcher may suggest that this practice enhances the prestige and the reputation of the physician among his/her colleagues and brings new innovations and up-to- date knowledge to patients (Ashar, et al., 2004). In addition, this practice is not commonly used by pharmaceutical companies so MOH hospitals' physicians may lack the experience about the bias and conflict of interest that may be associated with such funding (Bekelman, et al. (2003).

4.4.2.9 Attitude toward Honoraria Paying

Table (4.4-10): Mean and Test Value for "Attitude toward Honoraria Paying" shows that the mean of the paragraph No. 2 "It is acceptable for a physician to receive honorarium for a lecture she/he presented for PC." equals 2.9 (58.02%), Test-value = -1.410, and P-value = 0.159 which is greater than the level of significance $\alpha = 0.05$. The mean of this paragraph is insignificantly different from the hypothesized value 3. It is concluded that the respondents (Do not know, neutral) to this paragraph. This result indicates that the respondents do not give concrete answer about this paragraph. It may be explained by the lack of experience of MOH hospitals' physician about this type of marketing practice, where this practice is the least commonly used practice among all other marketing practices.

Table (4.4-10): Mean and Test Value for "Attitude toward Honoraria Paying"

No.	Paragraph	Mean	Mean (%)	Test value	P-value	Rank
1	It is acceptable for a physician to receive honorarium for a service provided to PC.	2.40	48.09	-8.804	0.000*	3
2	It is acceptable for a physician to receive honorarium for a lecture presented for PC.	2.90	58.02	-1.410	0.159	1
3	Receiving honoraria from PC doesn't undermine physicians' independence.	2.44	48.74	-9.094	0.000*	2
	Attitude toward Honoraria Paying	2.58	51.61	-7.867	0.000*	

* The mean is significantly different from 3

In general, the mean of the field "Attitude toward Honoraria Paying" equals 2.58 (51.61%), Test-value = -7.867 and P-value $\leq$ 0.001 which is smaller than level of significance $\alpha = 0.05$. The sign of the test is negative, so the mean of this field is significantly smaller than the hypothesized value 3. It is concluded that the respondents disagreed to field of "Attitude toward Honoraria Paying". This means that the respondents have negative attitude toward honoraria paying from pharmaceutical companies.

This result contradicts with the results of others studies which found that physicians accept and acknowledge honoraria paid from pharmaceutical companies for a physician who provide services to them (Jibson, 2007; Sharma, et al., 2010; McKinney, et al., 1990). Such accepted services include speaking, moderating educational programs, administrating research studies, evaluating drug utilization reviews, and serving on advisory boards, expert panels, or focus groups (Jibson, 2007).

The researcher suggests the following explanations; *firstly* that the honoraria paying is not well established marketing practice in the Gaza Strip, only 4.6% were exposed to which is very low extent as compared with other countries (Morgan, et al., 2006; 34%; Birkhahn, et al., 2010; Campbell, et al.,2007). Also, it is below the percentage of (33%) shown in other Arab counties as Libya and Saudi Arabia by Alssageer & Kowalski (2012) and Alosaimi, et al. (2013b) respectively. This may keep physicians from having an experience with this practice. This also confirmed by the neutrality or unknown situation expressed by physicians on paragraph No. 2 which is regarding the honoraria for speaking.

The s*econd* possible explanation is that the word "honoraria'' has no equivalent word in Arabic language, so it was translated into the words "financial rewarding" which does not reflect the principle of honoraria. Both possible explanations end by that honoraria may be perceived as unethical payments that unaccepted by physicians (Sharma, et al., 2010) despite that this practice is acceptable practice among many ethical and regulatory guidelines (Jibson, 2007).

If the lack of experience and misunderstanding explanation were excluded, the major explanation is that the respondents believe that such financial relationship compromise their integrity and undermines the public's trust in medicine as a profession so they respond negatively to this practice.

4.4.2.10 Attitude toward DTC Advertising

Table (4.4-11): Mean and Test Value for "Attitude toward Direct to Consumer Advertising" shows following results:

- The mean of the paragraph No. 1 "Direct to consumer (patient) advertising of PCs is an acceptable marketing" equals 3.11 (62.17%), Test-value = 1.788, and P-value = 0.075 which is greater than the level of significance $\alpha = 0.05$. The mean of this paragraph is insignificantly different from the hypothesized value 3, it is concluded that the respondents (Do not know, neutral) to this paragraph.
- The mean of the paragraph No. 3 "Direct to consumer (patient) advertising of PCs has sufficient information on drug properties" equals 2.96 (59.14%), Test-value = -0.739, and P-value = 0.460 which is greater than the level of significance $\alpha = 0.05$. The mean of this paragraph is insignificantly different from the hypothesized value 3, it is concluded that the respondents (Do not know, neutral) to this paragraph.

This indicates that the respondents did not give concrete answers for these two paragraphs. The researcher suggests that the pharmaceutical companies do not adopt this

marketing practice in the Gaza Strip, and MOH hospitals' physicians do not have enough experience about this type of marketing practice, make them unable to appraise this practice.

Table (4.4-11): Mean and Test Value for "Attitude toward Direct to Consumer (Patient) Advertising"

No.	Paragraph	Mean	Mean (%)	Test value	P-value	Rank
1	Direct to consumer (patient) advertising of PCs is an acceptable marketing practice.	3.11	62.17	1.788	0.075	2
2	Direct to consumer (patient) advertising of PCs encourage patients to seek treatment.	3.19	63.88	3.216	0.000*	1
3	Direct to consumer (patient) advertising of PCs has sufficient information on drug properties.	2.96	59.14	-0.739	0.460	3
	Attitude toward Direct to Consumer Advertising	3.09	61.71	1.632	0.104	

* The mean is significantly different from 3

- The mean of the paragraph No. 2 "Direct to consumer (patient) advertising of PCs encourage patients to seek treatment" equals 3.19 (63.88%), Test-value = 3.216, and P-value = P-value ≤ 0.001 which is smaller than the level of significance $\alpha = 0.05$. The sign of the test is positive, so the mean of this field is significantly greater than the hypothesized value 3. It is concluded that the respondents agreed to field of "Direct to consumer (patient) advertising of PCs encourage patients to seek treatment''. This indicates that the respondents understood the principle of DTC advertising.

In general, the mean of the field "Attitude toward Direct to Consumer advertising" equals 3.09 (61.71%), Test-value = 1.632, and P-value = 0.104 which is greater than the level of significance $\alpha = 0.05$. The mean of this field is insignificantly different from the hypothesized value 3. It is concluded that the respondents (Do not know, neutral) to field of "Attitude toward Direct to Consumer (Patient) advertising"**.** This means that the respondents did not give concrete evaluation for DTC advertising as marketing practice despite that they agree to the concept of DTC advertising in paragraph No. 2.

These results completely contradict with the results of other studies which confirm the negative attitude of physicians toward DTC advertising as marketing practice and even find it as unethical because it negatively influences the physician- patient relationship (Robinson, et al., 2004; Abo-Rumman, 2012; Reast and Carson, 2000)**.** Again, the less common use of this practice by pharmaceutical companies in the Gaza Strip may keep MOH hospitals' physicians from having experience about this type of marketing practice and this makes them unable to appraise this practice in a solid manner.

In Summary, the respondents have positive attitudes toward eight marketing practices which are ranked as the following: non-promotional events sponsoring, foreign conferences travel sponsoring, promotional events organizing, scientific studies funding, PCRs visiting and detailing, promotional printed materials distributing, free medical samples distributing and gift giving. At the same time, they have neutral/ not know attitude toward DTC advertising and have negative attitude toward honoraria paying.

4.4.3 Attitude toward Information Provided through Marketing Practices

A key component of physicians' attitude toward the marketing practice that is a crucial to be evaluated is the attitude of physicians toward the information provided by pharmaceutical companies through marketing practices such as PCRs' detailing, promotional printed materials and promotional events. As suggested by the literature, this attitude includes two components: *the importance* (Anderson, et al., 2009; Alssageer & Kowalski, 2013; Al-Areefi, et al., 2013) and *the credibility* (Masood, et al., 2012; Lieb & Brandtönies, 2010) of such information.

4.4.3.1 Attitude toward the Importance of the Marketing Practice Information

Table (4.4-12): Mean and Test Value for "Attitude toward the Importance of the Marketing Practice Information" shows that the mean of the field "Attitude toward the Importance of the Marketing Practices Information" equals 3.876 (77.5%), Test-value = 15.351, and P-value ≤ 0.001 which is smaller than the level of significance $\alpha = 0.05$. The sign of the test is positive, so the mean of this field is significantly greater than the hypothesized value 3. It is concluded that the respondents agreed to the field of "Attitude toward the Importance of the Marketing Practices Information.

Table (4.4-12): Mean and Test Value for "Attitude toward the Importance of the Marketing Practice Information"

No.	Paragraph	Mean	Mean (%)	Test value	P-value	Rank
1	PCs' representative detailing is an important source of information	3.89	77.8%	12.447	0.000*	3
2	Promotional printed materials of PCs have scientific value.	3.67	73.4%	11.590	0.000*	5
3	The meetings and lectures of PCs have scientific value.	3.98	79.5%	15.161	0.000*	2
4	Foreign conferences travels sponsored by PCs have scientific value.	4.00	80.0%	14.552	0.000*	1
5	Scientific Studies funded by PCs have scientific value	3.85	77.0%	13.785	0.000*	4
	Attitude toward the Importance of the Marketing Practice Information	3.88	77.5%	15.351	0.000*	

This result indicates that the respondents found the information provided by pharmaceutical companies through marketing practices is important. This result matches with the results of many studies that show that the majority of physicians rely on the pharmaceutical companies' information and rate it as important, useful and convenient source of information (Anderson, et al., 2009; Smith, 2002; Prosser, et al., 2003; Vancelik, et al., 2007; Alssageer & Kowalski, 2013; Al-Areefi, et al., 2013; Zaki, 2014).

The researcher suggests that the information from pharmaceutical companies may have much higher role in developing countries as Palestine, due to the absence of established CME programs in healthcare systems, all the CME lectures are scattered efforts initiated by some physicians (Kishawi, 2014). The unavailability of established CME programs among MOH hospitals makes pharmaceutical companies' information influence is much greater (Balawi, 2013).

4.4.3.1 Attitude toward the Credibility of the Marketing Practice Information

Table (4.4.13): Mean and Test Value for "Attitude toward the Credibility of the Marketing Practice Information shows that the mean of the field "Attitude toward credibility of marketing practices information" equals 3.58 (71.51%), Test-value = 11.862, and P-value ≤ 0.001 which is smaller than the level of significance $\alpha = 0.05$. The sign of the test is positive, so the mean of this field is significantly greater than the hypothesized value 3. It is concluded that the respondents agreed to the field of "Attitude toward the Credibility of the Marketing Practices Information".

Table (4.4-13): Mean and Test value for "Attitude toward the Credibility of the Marketing Practice Information"

No.	Paragraph	Mean	Mean (%)	Test value	P-value	Rank
1	PCs' representative detailing includes credible information	3.49	69.7%	8.716	0.000*	4
2	Promotional printed materials of PCs include credible information	3.54	70.7%	10.157	0.000*	3
3	The meetings and lectures of PCs are credible.	3.69	73.8%	12.355	0.000*	1
4	Scientific studies funded by PCs adhere with ethics of scientific studies.	3.59	71.8%	11.035	0.000*	2
	Attitude toward the Credibility of the Marketing Practice Information	3.58	71.5%	11.862	0.000*	

This result indicates that the respondents find the information provided by pharmaceutical companies through marketing practices is credible. This result contradicts with McKinney, et al. (1990), Lexchin, (2009), Lieb and Brandtönies, (2010) and Zaki (2014) studies. Again, the absence of accredited CME programs, peer-reviewed journals and other credible sources of medical information make MOH hospitals find pharmaceutical companies' information much more credible, and this leads to much greater

influence on their prescribing behaviour. At the same time, it may suggest that the physicians are not well trained, or have no time to make such appraisal for information provided by pharmaceutical companies (Anderson, 2009).

4.4.4 Attitudes toward the Marketing Practices by Companies' Types

Exploring the attitude of MOH hospitals' physicians by companies' types is one of the objectives of this study. Section 4.4.4 is designed to address this objective.

Table (4.4-14): Attitude of Respondents toward the Marketing Practices by Companies' Types shows that the respondents reported that they mostly prefer the marketing practices of local companies (33.2%), foreign companies (32.1%), Israeli companies (3.7%), Egyptian companies (0.0%), Drug wholesalers (0.9%) and no company (30.1%).

These indicate that in general, the foreign and local pharmaceutical companies are the most preferred pharmaceutical companies' types in the Gaza Strip regarding their marketing practices with slight advantage of local companies. The marketing practices of Israeli companies, Egyptian companies and Drug wholesalers are much less preferred as compared with foreign and local companies.

Table (4.4-14): Attitude of Respondents toward the Marketing Practices by Companies' Types

No.	Responses	No one	Drug wholesaler	Egyptian	Israeli	Local	Foreign
1	I prefer the visiting of the PCs' representative of	11.5	0.3	0	2.6	56.7	28.9
2	I prefer the promotional printed materials distributed from	15.8	1	0	3.3	37.8	42.1
3	I prefer the free medical samples distributed from	20.4	0	0	5.3	49.6	24.7
4	I prefer the gifts given from	55.9	0.3	0	3.3	23.7	16.8
5	I prefer the local scientific conferences and CME lectures sponsored by	16.1	1	0	4.9	36.2	41.8
6	I prefer the meeting and lectures organized by	12.5	1.3	0	3.6	38.5	44.1
7	I prefer the foreign conference travel sponsored by	29.9	1	0	3	21.4	44.7
8	I prefer the scientific study funded by	23.8	1	0	3	29.3	42.9
9	I prefer the honoraria for a service paid by	71.1	1	0	2.6	9.8	15.5
10	I prefer the direct to consumer (Patient) advertising advertised by	43.4	2.3	0	5.6	29.0	19.7
	Attitude toward the Marketing Practices by Companies' Types	30.1	0.9	0	3.7	33.2	32.1

As shown in table (4.4-14, comparing local companies and foreign for each type of marketing practices, local companies are preferred more than foreign companies by most physicians in four types of the marketing practices which are PCRs visiting and detailing (56.7% vs. 28.9%), Free medical samples distributing (49.6% vs. 24.7%), gift giving (23.7% vs. 16.8%) and DTC advertising (29.4% vs. 19.7%).

In contrast, local companies are not the preferred company type by most physicians in the other six types of marketing practices as compared with foreign companies, which are promotional printed materials distributing (37.8 % vs. 42.1%), non-promotional events sponsoring (36.2% vs. 41.8%), promotional events organizing (38.5% vs. 44.1%), foreign conferences travel sponsoring (21.4% vs. 44.7%), scientific studies funding (29.3% vs. 42.9%) and honoraria paying (9.8% vs. 15.5%).

The preference of visiting from local companies over foreign companies may be explained by superior behaviour and professionalism of local companies' PCRs, or because their visits are associated with more samplings and gifting as exposure data shows. The preference of non-promotional events sponsoring, promotional events organizing, foreign conferences travel sponsoring and scientific studies funding provided by foreign companies may reflect the quality of these practices by foreign companies compared with local companies, or may reflect the new trend of marketing adopted by many foreign companies that to focus on educational approaches rather that direct promotional approaches, or may reflect higher level of ethical commitments for medicine practice improvement or social responsibility to which foreign companies committed.

One of the key observations is that the top three marketing practices which the respondents reported the highest positive attitudes toward are those practices that foreign companies rely on or use, which are non-promotional events sponsoring, promotional events organizing and foreign conferences travel sponsoring. Do foreign pharmaceutical companies provide better quality for these three marketing practices compared with local companies and this made the positive attitude of MOH hospitals' physicians toward these three practices? Are the foreign pharmaceutical companies cleverer than local companies because they employed the top three marketing practices which are preferred by MOH Hospitals' physicians? In other words, which comes first the adoption of these three marketing practices by foreign companies or the positive attitude toward these three marketing practices?

4.5 Willingness, Perception and Preparedness

Exploring the willingness of MOH hospitals' physicians to the participation in the marketing practices, their perception about the influence of the marketing practices on their prescribing behaviours and their preparedness to the regulation of the marketing practices are key three objectives of this study. Section 4.5 is designed to address these objectives.

4.5.1 Willingness to the Participation in Marketing Practices

The literature shows discrepancies in attitudes and consistency in willingness, this encourages the researcher to find out the willingness of MOH hospitals' physicians to clarify these discrepancies more and to confirm the attitude of physicians toward the marketing practices.

Table (4.5-1): Mean and Test Value for "Willingness to the Participation in Marketing Practices" shows the following results:

- The mean of the paragraph No. 4 "I'd like to receive gifts given from PCs" equals 3.12 (62.45%), Test-value = 1.729, and P-value = 0.085 which is greater than the level of significance $\alpha = 0.05$. The mean of this paragraph is insignificantly greater than the hypothesized value 3, It is concluded that the respondents (Do not know, neutral) to paragraph of "I'd like to receive gifts given from PCs". This means that the respondents do not give concrete answer about their willingness to receive gifts from pharmaceutical companies. This result matches with attitude results which show that the attitude of respondents to gifts giving is the weakest positive attitude among all other marketing.
- The mean of the paragraph No. 9 "I'd like to receive honoraria paid from PCs in compensation to services I provide" equals 2.43 (48.61%), Test-value = -7.664, and P-value = 0.425 which is greater than the level of significance $\alpha = 0.05$. The mean of this paragraph is insignificantly greater than the hypothesized value 3. It is concluded that the respondents (Do not know, neutral) to paragraph of "I'd like to receive honoraria paid from PCs in compensation to services I provide". This means that the respondents do not give concrete answer about their willingness to receive honoraria from pharmaceutical companies. This result match with the negative attitude of the respondents toward honoraria paying shown previously.
- The mean of the paragraph No. 10 "I'd like to have direct to consumer (Patients) advertising of PCs." equals 2.85 (57.08%), Test-value = -2.031, and P-value = 0.043 which is smaller than the level of significance $\alpha = 0.05$. The sign of the test is negative and the mean of this paragraph is significantly smaller than the hypothesized value 3. It can be concluded that the respondents disagree to paragraph of "I'd like to have direct to consumer (Patients) advertising of PCs". This means that respondents are unwilling to participate in DTC advertising which may elaborate the neutral/Do not know attitude toward DTC advertising shown previously.

Table (4.5-1): Mean and Test Value for "Willingness to the Participation in the Marketing Practices"

No.	Paragraph	Mean	Mean (%)	Test value	P-value	Rank
1	I'd like to be visited by PCs' representatives.	3.72	74.46	13.920	0.000*	6
2	I'd like to receive promotional printed materials from PCs.	3.83	76.63	16.503	0.000*	5
3	I'd like to receive free medical samples from PCs.	3.60	72.00	10.778	0.000*	7
4	I'd like to receive gifts given from PCs.	3.12	62.45	1.729	0.085	8
5	I'd like to attend local scientific conferences and CME lectures by PCs.	4.05	80.99	22.824	0.000*	2
6	I'd like to attend meetings and lectures organized by PCs.	4.07	81.32	24.905	0.000*	1
7	I'd like to attend foreign travel conferences sponsored by PCs.	4.04	80.86	21.125	0.000*	3
8	I'd like to participate in scientific study funded by PCs.	3.95	78.94	17.954	0.000*	4
9	I'd like to receive honoraria paid from PCs in compensation to services.	2.43	48.61	-7.664	0.425	10
10	I 'd like to have direct to consumer (Patients) advertising of PCs.	2.85	57.08	-2.031	0.043*	9
	Willingness to the Participation in the Marketing Practices	3.57	71.37	15.411	0.000*	

* The mean is significantly different from 3

In general, the mean of the field "Willingness to the Participation in The Marketing Practices" equals 3.57 (71.37%), Test-value = 15.411, and P-value ≤ 0.001 which is smaller than the level of significance $\alpha = 0.05$. The sign of the test is positive, so the mean of this field is significantly greater than the hypothesized value 3. It is concluded that the respondents agreed to field of "Willingness to the Participation in the Marketing Practices".

This result indicates that respondents are willing to participate in the marketing practice of pharmaceutical companies in general. This matches with many other studies like Wazana, (2000), Campbell, (2007), Ijoma, et al. (2010) and Alosaimi, et al. (2013b). This willingness may elaborate the positive attitude of the respondents toward these practices. This may be confirmed by comparing the mean of the willingness 3.57 (71.37%) with the mean attitude 3.49 (69.72%). The statistical correlation between this willingness and attitude will be presented later, which may confirm such correlation and eliminate the presence of attitude- behaviour gap and cognitive dissonance situation.

This willingness of MOH hospitals' physicians to the participating in marketing practice means that they are engaged and will be engaged more in the marketing practices in the future, and this makes them more vulnerable to the influence of these practices on their prescribing behaviour (Buckely ,2004; Wazana, 2000).

As shown in Table (4.5-1), checking the willingness of physicians to the participation in each types of the marketing practices indicated that the respondents are willing to participate in seven marketing practices -in different degrees- which are ranked as the following: promotional events organizing, non-promotional events sponsoring, foreign conference travel sponsoring, scientific studies funding, promotional printed materials distributing, PCRs' visiting and detailing and free medical samples distributing. While they do not know/have neutral willing to participate in two marketing practices which are gift giving and honoraria paying and they are unwilling to participate in DTC advertising. These results highly match with the results of attitudes toward different types of the marketing practice, in other word the willingness is highly explained by the attitude for each marketing practice.

Again, one of the key observations is that the top three marketing practices which the respondents indicated highest willing to participate in, are those practices that foreign companies rely on, which are non-promotional events sponsoring, promotional events organizing and foreign conferences travel sponsoring.

4.5.2 Perception about the Influence of the Marketing Practices

The ultimate goal of all marketing practices of pharmaceutical companies is to influence the prescribing behaviour of the physicians toward the marketed drug. Therefore, to get more complete and clear picture about the marketing practices, it is important to understand how physicians perceive the influence of the marketing practices of pharmaceutical companies on their prescribing behaviour and drugs choices.

Table (4.5-2): Mean and Test Value for "Perception about the Influence of the Marketing Practices" shows that the mean of the field "Perception about the Influence of the Marketing Practices" equals 3.44 (68.85%), Test-value = 9.466, and P-value $\leq$ 0.001, which is smaller than the level of significance $\alpha = 0.05$. The sign of the test is positive, so the mean of this field is significantly greater than the hypothesized value 3. It is concluded that the respondents agreed to field of "Perception about the Influence of the Marketing Practices".

Table (4.5-2): Mean and Test Value for "Perception about the Influence of the Marketing Practices"

No.	Paragraph	Mean	Mean (%)	Test value	P-value	Rank
1	The marketing practices of PCs affect physicians' prescribing behaviour and their drugs choice.	3.61	72.24	10.718	0.000*	1
2	The support received from PC is considered when selecting among alternative drugs.	3.30	66.03	4.726	0.000*	5
3	As the exposure of physicians to marketing practices increases, their prescriptions increase.	3.57	71.32	9.742	0.000*	2
4	As the value of the marketing practices for physicians increases, their prescriptions increase.	3.54	70.72	9.160	0.000*	3
5	Other physicians are under pressure from PCs to prescribe their drugs.	3.28	65.68	4.758	0.000*	6
6	Other physicians are more influenced by marketing practices of PCs.	3.36	67.11	6.188	0.000*	4
	Perception about the Influence of Marketing Practices	3.44	68.85	9.466	0.000*	

* The mean is significantly different from 3

This result indicates that the respondents perceive that the marketing practices do influence their prescribing behaviour. This matches with many developing countries' studies which show that physicians acknowledge and admit this influence (Ijoma, et al., 2010; Vancelik, et al., 2007; Al-Areefi, et al., 2013; Appiah-Kubi, 2011), but strongly contradicts with many studies which confirm that physicians do not perceive this influence and believe themselves are not affected by marketing practices (Grande, et al., 2009; Morgan, et al., 2006 ; Vancelik, et al., 2007; Sharma, et al., 2010 ; Alssageer and Kowalski, 2013; Zaki, 2014).

As shown in Table (4.5-2), the mean of the paragraph No. 6 "Other physicians are more influenced by marketing practices of PCs" equals 3.36 (67.11%), Test-value = 6.188, and P-value ≤ 0.001 which is smaller than the level of significance $\alpha = 0.05$. The sign of the test is positive, so the mean of this field is significantly greater than the hypothesized value 3. It is concluded that the respondents agreed to paragraph of "Other physicians are more influenced by marketing practices of PCs." This result matches with other studies which found that physicians perceive their colleagues are more influenced by the marketing practices than themselves (Chimonas, et al., 2007; Lieb & Brandtönies, 2010; Zipkin & Steinman, 2005).

The idea of this paragraph is to show if the physicians do not perceive this influence, is this situation is due to the lack of awareness of such influence, or it is a denial mechanism to rationalize their behaviour. It seems that MOH hospitals' physicians perceive this influence and do not deny it.

The acknowledgment of the respondents to such influence may make them more aware and less vulnerable to the negative outcomes of the marketing practices and may make they more prepared to the regulations of these marketing practices. On the other hand, if they acknowledge and admit this influence and allow such influence, this may make the situation critical on the practicing of medicine; this requires MOH decisions makers to promptly take the corrective actions which have to include both training to increase their awareness about such interaction and formal regulations and ethical codes to govern the interaction.

A key to confirm one of the two suggestions is that studying the correlation between this perception about influence and the attitude which will be presented later. The presence of correlation confirms that physicians perceive this influence and they change their attitude accordingly. Otherwise, if the correlation is absent, this confirms that physicians perceive this influence and they do not care about to change their attitude.

4.5.3 Preparedness to the Regulation of Marketing Practices

It is a key for decision makers to identify how MOH hospitals' physicians are prepared to the regulation of the marketing practices to take the appropriate corrective actions

Table (4.5-3): Mean and Test Value for "Preparedness to the Regulation of the Marketing Practices" shows the following results:

- The mean of the paragraph No. 4 "It necessary to prohibit the entrance of PCs' representatives to MOH hospitals" equals 2.76 (55.17%), Test-value = -3.629, and P-value ≤ 0.001 which is smaller than the level of significance $\alpha = 0.05$. The sign of the test is negative, so the mean of this paragraph is significantly smaller than the hypothesized value 3 because. It is concluded that the respondents disagreed to this paragraph. This indicates that the respondents are against the prohibition of the entrance of PCRs to MOH hospitals. This matches with Lieb and Brandtönies (2010) study and contradicts with the decision was taken by MOH to cesses the entrance of PCRs to MOH hospitals and limit their entrance to sponsoring CME lectures (Kishawi, 2014).
- The mean of the paragraph No. 9 "It is <u>not necessary</u> to encourage PCs to sponsor local scientific conferences and CME lectures" equals 1.78 (35.60%), Test-value = -23.227, and P-value ≤ 0.001 which is smaller than the level of significance $\alpha = 0.05$. The sign of the test is negative, so the mean of this paragraph is significantly greater than the hypothesized value 3 because. It is concluded that the respondents

disagreed to this paragraph. This result matches with Misra, et al. (2010) and Lieb and Brandtönies (2010) who found that most respondents agree to encourage pharmaceutical companies to support important conferences. This may be explained by the exposure findings which show that pharmaceutical companies are a major or may be the only sponsor for these events and the positive attitude of physicians toward such events.

- The mean of the paragraph No. 10 "It is necessary to prohibit PCs from organizing presentations inside MOH hospitals" equals 2.43 (48.51%), Test-value = - 8.557, and P-value $\leq$ 0.001 which is smaller than the level of significance $\alpha = 0.05$. The sign of the test is negative, so the mean of this paragraph is significantly smaller than the hypothesized value 3 because. It is concluded that the respondents disagreed to this paragraph. This indicated that the respondents against the prohibition of PCs from organizing presentations inside MOH hospitals, which matches with Misra, et al. (2010). This may explained by their positive attitude toward such events.
- The mean of the paragraph No. 13 "It is necessary for a physician to disclose for MOH about the honoraria received from PCs." equals 3.12 (62.31%), Test-value = 1.699, and P-value = 0.090 which is greater than the level of significance $\alpha = 0.05$. The mean of this paragraph is insignificantly greater than the hypothesized value 3. It is concluded that the respondents (Do not know, neutral) to paragraph of "It is necessary for a physician to disclose for MOH about the honoraria received from PCs". This means that the respondents do not give concrete answers regarding the disclosure of honoraria that may be paid to them from pharmaceutical companies, the negative attitude toward this practice and the lack of experience with this practice may explain this finding.

Table (4.5-3): Mean and Test Value for "Preparedness to the Regulation of the Marketing Practices"

No.	Paragraph	Mean	Mean (%)	Test value	P-value	Rank
1	It is necessary to implement formal regulations that control the interaction between physicians and PCs.	4.13	82.50	26.561	0.000*	2
2	It is necessary to implement ethical codes that govern the interaction between physicians and PCs.	4.14	82.89	25.922	0.000*	1
3	It necessary to arrange training courses for physicians about interaction with PCs.	3.83	76.70	16.178	0.000*	5
4	It necessary to prohibit the entrance of PCs' representatives to MOH hospitals.	2.76	55.17	-3.629	0.000*	12
5	It is necessary to monitor the promotional printed materials of PCs.	4.04	80.79	21.390	0.000*	3
6	It is necessary to distribute reduced packs of free medical samples stamped by " Not for sales".	3.82	76.31	13.102	0.000*	6
7	It is necessary to limit the distributing of free medical samples to patients only.	3.28	65.51	3.977	0.000*	9
8	It necessary to limit the value of gifts given from PCs to a specific value.	3.27	65.43	4.246	0.000*	10
9	It is not necessary to encourage PCs to sponsor local scientific conferences and CME lectures.	1.78	35.60	-23.227	0.000*	14
10	It is necessary to prohibit PCs from organizing presentations inside MOH hospitals.	2.43	48.51	-8.557	0.000*	13
11	It is necessary to select physicians for participation in foreign conferences travel of PCs by MOH.	3.34	66.80	4.825	0.000*	8
12	It necessary for a physician to get MOH approval when participate in scientific studies for PCs	3.40	67.95	5.789	0.000*	7
13	It is necessary for a physician to disclose for MOH about the honoraria received from PCs.	3.12	62.31	1.699	0.090	11
14	It is necessary to restrict the marketing of prescription only drugs for physicians only.	3.89	77.82	15.374	0.000*	4
	Preparedness to the Regulation of the Marketing Practices	3.37	67.49	12.303	0.000*	

* The mean is significantly different from 3

In general, the mean of the field "Preparedness to the Regulation of the Marketing Practices" equals 3.37 (67.49%), Test-value = 12.303, and P-value ≤ 0.001 which is smaller than the level of significance $\alpha = 0.05$. The sign of the test is positive, so the mean of this field is significantly greater than the hypothesized value 3. It is concluded that the respondents agreed to field of "preparedness to the regulation of the marketing practices".

This result reveals that the respondents are well prepared to the regulations of marketing practices and matches with studies which found the preparedness of physicians toward some types of marketing practices as (Sharma, et al., 2010; Pinto, et al., 2007; Alssageer & Kowalski, 2013 ; Misra, et al. 2010). This results contradicts with studies that show physicians are against such regulation (Morgan, et al., 2006; Korenstein, et al., 2010; Lieb & Brandtönies, 2010; Balhara, et al., 2012; Zaki, 2014).

These results confirm that despite that the respondents acknowledge the influence of marketing practices on their prescribing behaviour, they are prepared to the regulation of the marketing practices by implementing formal regulations and ethical codes to govern such interactions, and they are prepared to attend training courses about such interaction. The roles of MOH and professional associations are essential in this area. In addition, the presence of this preparedness means that the implementation of the formal regulations and ethical codes will be easy, because physicians are encouraged to such guidelines and these procedures. At the same time, finding the correlation between this preparedness and the attitude is important to predict the future outcome of this regulation, as will determine later.

PART TWO: Hypotheses Testing

In the following sections from 4.6 to 4.10, the study hypotheses will be tested and discussed.

4.6 Differences in Exposure due to Physicians' Characteristics

Testing the differences among MOH hospitals' physicians in their exposure to the marketing practices due to physicians' characteristics which include personal, professional and practice setting characteristics is the *first hypothesis* of this study. Section 4.6 is designed to address this hypothesis.

It is important to indicate that to make accurate comparison among physicians in their exposure; it is important to find the exposure of physician for all types marketing practices at the same time; to find out what is called "*Total Exposure"*. In other words, a unified indicator should be used to measure the total exposure of each physician to all ten types of the marketing practices. The total summation of the frequency of exposure per each marketing practice types is not an accurate indicator, because the marketing practices types are different in their values and degree of reflecting the actual exposure and engagement of a physician in the marketing practice. For example, receiving a pen as a simple gift is not as attending foreign conferences sponsoring. Therefore, the researcher

uses a "*Weight''* for each type of the marketing practice then multiplies this weight by the frequency of exposure to find the total exposure. The "*Total Exposure*" accurately reflects the actual degree of exposure, thus exposure among all physicians can be fairly evaluated.

These weights were suggested by local group of experts in pharmaceutical marketing. The names of the experts who suggested these weights are enlisted in (Appendix 11) and the suggested weights are available in (Appendix 12).

4.6.1 Differences in Exposure due to Personal Characteristics

In this subsection, the researcher seeks to identify the statistically significant differences among the respondents in their exposure to the marketing practices due to personal characteristics which include gender, age, average monthly income and income satisfaction.

4.6.1.1 There are no statistically significant differences in the exposure due to Gender

Table (4.6-1): Mean Rank and Significance for Total Exposure and Gender shows that the P-Value is 0.564 which greater than the level of significance $\alpha = 0.05$. The null hypothesis is accepted, and there are no statistically significant differences among respondents in their exposure due to gender groups.

Table (4.6-1): Mean Rank and Significance for Total Exposure and Gender

Gender	N	Mean Rank	Mann-Whitney U	Wilcoxon W	Z	P-Value
Female	29	143.53	3727.5	4162.5	-0.578	0.564
Male	275	153.45				
Total	304					

Mann-Whitney Test for grouping variable of Gender

This result matches with the result of Anderson, et al. (2009) study which shows no differences among physicians in their exposure due to gender but contradicts with Alosaimi, et al. (2013a) study which confirms such differences. It also contradicts with two contradictory results of Campbell, et al. (2007) who found that male gender, and Saito, et al. (2010) who found female gender are associated with higher exposure to the marketing practices. The researcher suggests that these contradictory results confirm that gender is not a factor considered by pharmaceutical companies in targeting physicians for the marketing practices.

4.6.1.2 There are no statistically significant differences in the exposure due to Age

Table (4.6.2): Mean Rank and Significance for Total Exposure and Age shows that Chi-square value 6.872 and P-Value is 0.333 which is greater than the level of significance $\alpha = 0.05$. The null hypothesis is accepted, and there are no statistically significant differences among respondents in their exposure due to age groups.

Table (4.6-2): Mean Rank and Significance for Total Exposure and Age in Years.

Age	N	Mean Rank	Chi-Square	df	P-Value
26 - Less than 30	25	117.76	6.872	6	0.333
30 - Less than 35	13	136.31			
35 - Less than 40	39	146.13			
40 - Less than 45	102	153.33			
45 - Less than 50	43	163.13			
50 - Less than 55	44	154.5			
55 and older	38	170.87			
Total	304				

Kruskal Wallis Test for grouping variable of Age

This result matches with Anderson, et al. (2009) study which found that age is not associated with industry exposure differences, but contradicts with Alosaimi, et al. (2013a) who found that age is significantly associated with exposure to PCRs. The researcher suggests that comparing of the exposure per each practice, not total exposure– as this study – may explain such discrepancies. In other words, using the weighted total exposure in this study may eliminate such differences. This may be confirmed by Wazana (2000) who suggested that junior physicians may be more exposed than seniors physicians to some – less value – practices as free medical samples distributing, gift giving, non-promotional sponsoring and promotional events organizing, while senior physicians are more exposed than junior physicians to – high value- practices as foreign conferences travel sponsoring, scientific studies funding and honoraria paying.

4.6.1.3 There are statistically significant differences in the exposure due to Average Monthly Income

Table (4.6-3): Mean Rank and Significance for Total Exposure and Average Monthly Income, shows that Chi-square value 16.538 and P-Value is 0.002 which is smaller than the level of significance $\alpha = 0.05$. The null hypothesis is rejected, and there are statistically significant differences among respondents in their exposure due to average monthly income groups.

Table (4.6-3): Mean Rank and Significance for Total Exposure and Average Monthly Income

Average Monthly Income	N	Mean Rank	Chi-Square	df	P-Value
< 3000	14	133.93	16.538	4	0.002*
3000 - < 4000	42	143.44			
4000 - < 5000	118	131.68			
5000 - < 6000	76	181.09			
6000 and more	51	161.78			
Total	301				

Kruskal Wallis Test for grouping variable of Average Monthly Income
* Significant at the 0.05 level

The results show that the respondents with average monthly income from NIS 5,000 and more are exposed to marketing practices more. The researcher suggests that the higher income is always associated with having a private clinic and treating higher numbers of patients treated and both of these factors make this group a key target for pharmaceutical companies. This result contradict with Ashar, et al. (2004) who found that physicians with lower annual incomes are exposed more in marketing practice, which is the opposite to our results.

4.6.1.4 There are no statistically significant differences in exposure due to Income Satisfaction

Table (4.6-4): Mean Rank and Significance for Total Exposure and Income Satisfaction shows that the Chi-Square value is 1.476 and P-Value is 0.688 which is greater than the level of significance $\alpha = 0.05$. The null hypothesis is accepted, and there are no statistically significant differences among respondents in their exposure due to income satisfactions.

Table (4.6-4): Mean Rank and Significance for Total Exposure and Income Satisfaction

Income Satisfaction	N	Mean Rank	Chi-Square	df	P-Value
Very Satisfied	21	168.4	1.476	3	0.688
Satisfied	130	153.52			
Dissatisfied	109	152.91			
Very Dissatisfied	44	140.89			
Total	301				

Kruskal Wallis Test for grouping variable of Income Satisfaction

This result contradict with the results of Ashar, et al. (2004) and Al-Hamdi, et al. (2013), who introduced dangerous findings that physicians who are dissatisfied with their income had greater exposure than those who were satisfied with their income; as physicians with low income enhance their income through pharmaceutical marketing practices and pharmaceutical companies take this opportunity to tempt the physicians. This result may indicate that in the Gaza Strip, the marketing practices are driven by pharmaceutical companies not by physicians, and this is better and normal situation. If the exposure to marketing practice is driven by physicians, this means that physicians with low income will seek for more marketing practice engagement to enhance their income and this is extremely harmful to medicine practice, and this what was found actually in Yemen by Hamdi, et al. (2013).

4.6.2 Difference in Exposure due to Professional Characteristics

In this subsection, the researcher identifies the statistically significant differences among the respondents in their exposure to the marketing practices due to professional characteristics which include graduation country of Bachelors, years of practicing medicine in Gaza, highest educational degree, job rank, specialty, holding a managerial position, and participating in committees.

4.6.2.1 There are no statistically significant differences in exposure due to Graduation Countries of Bachelors.

Table (4.6-5): Mean Rank and Significance for Total Exposure and Graduation Countries of Bachelors shows that the Chi-Square value is 3.35 and P-Value is 0.646 which is greater than the level of significance $\alpha = 0.05$. The null hypothesis is accepted, and there are no statistically significant differences among respondents in their exposure due to graduation countries.

Table (4.6-5): Mean Rank and Significance for Total Exposure and Graduation Countries of Bachelors

Graduation Countries of Bachelors	N	Mean Rank	Chi-Square	df	P-Value
Eastern Europe Countries	154	150.18	3.35	5	0.646
Western Europe Countries	10	146.65			
Asia Countries	7	187.07			
Arab countries	100	146.22			
Palestine	13	125.69			
Turkey	14	170.86			
Total	298				

Kruskal Wallis Test for grouping variable of Graduation Country of Bachelor's

The researcher suggests that the graduation countries are not a factor considered by pharmaceutical companies in targeting physicians, and they target physicians based on other factor regardless their graduations countries.

4.6.2.2 There are no statistically significant differences in exposure due to Years of Practicing Medicine in Gaza.

Table (4.6-6): Mean Rank and Significance for Total Exposure and Years of Practicing Medicine in Gaza shows that the Chi-Square value is 7.287 and P-Value is 0.200 which is greater than the level of significance $\alpha = 0.05$. The null hypothesis is accepted, and there are no statistically significant differences among respondents in their exposure due to years of practicing medicine.

Table (4.6-6): Mean Rank and Significance for Total Exposure and Years of Practicing Medicine in Gaza

Years of Practicing Medicine in Gaza	N	Mean Rank	Chi-Square	df	P-Value
1 - Less than 5	40	129.68	7.287	5	0.200
5 - Less than 10	59	144.75			
10 - Less than15	86	149.8			
15 - Less than 20	52	167.8			
20 - Less than 25	31	138.53			
25 and more	32	172.5			
Total	300				

Kruskal Wallis Test for grouping variable of Years of Practicing Medicine in Gaza

This result contradicts with two studies which found an association between the years of experience and exposure to the marketing practices. These two studies suggests contradictory findings; as Alssageer and Kowalski (2012) found that years of practice is significantly and positively associated with meetings with PCRs, while Saito, et al. (2010) found significant but negative association. These contradictory results appeared in the literature due to the comparing of the exposure to each practice, not total exposure– as this study. The researcher suggests that using the weight is fair enough to evaluate the actual exposure situation for each physician.

4.6.2.3 There are statistically significant differences in exposure due to Educational Degree

Table (4.6-7): Mean Rank and Significance for Total Exposure and Educational Degree (Highest) shows that Chi-square value 16.989 and P-Value is 0.002 which is smaller than the level of significance $\alpha = 0.05$. The null hypothesis is rejected, and there

are statistically significant differences among respondents in their exposure due to educational degree.

Table (4.6-7): Mean rank and Significance for Total Exposure and Educational Degree (Highest)

Educational Degree (Highest)	N	Mean Rank	Chi-Square	df	P-Value
Bachelors	73	122.94	16.989	4	0.002*
High Diploma	37	137.58			
Master	76	179.36			
Doctoral	24	147.94			
Board	92	157.67			
Total	302				

Kruskal Wallis Test for grouping variable of Educational Degree (Highest)
* Significant at 0.05 level

These results indicate that the respondents with Master degree and higher are more exposed to marketing practices. It may suggested that high educational degree always associated with influence on other colleagues, higher participation in committees, having private clinics and higher number of patients treated which makes this group one of the key group for pharmaceutical companies to be targeted by the marketing practices.

4.6.2.4 There are statistically significant differences in exposure due to Job Rank

Table (4.6-8): Mean Rank and Significance for Total Exposure and Job Rank shows that Chi-square value 6.973 and P-Value is 0.031 which is smaller than the level of significance $\alpha = 0.05$. The null hypothesis is rejected, and there are statistically significant differences among the respondents in their exposure due to job rank.

Table (4.6-8): Mean Rank and Significance for Total Exposure and Job Rank

Job Rank	N	Mean Rank	Chi-Square	df	P-Value
Resident	67	128.51	6.973	2	0.031*
Specialist	123	148.37			
Consultant	108	163.81			
Total	298				

Kruskal Wallis Test for grouping variable of Job Rank
* Significant at 0.05 level

These results indicate that consultants and specialists are more exposed to marketing practices, which match with Alssageer and Kowalski, (2012) and Ashar, et al. (2004). This suggests that consultants and specialists are participating more in committees, influencing other colleagues' drug choice, having private clinic and treating more patients' number in their clinics which makes this group are one of the key target groups for pharmaceutical companies' marketing practices.

4.6.2.5 There are statistically significant differences in exposure due to Specialty

Table (4.6-9): Mean Rank and Significance for Total Exposure and Specialty shows that Chi-square value 73.54 and P-Value ≤ 0.001 which is smaller than the level of significance $\alpha = 0.05$. The null hypothesis is rejected, and there are statistically significant differences among respondents in their exposure due to specialty.

Table (4.6-9): Mean Rank and Significance for Total Exposure and Specialty

Specialty	N	Mean Rank	Chi-Square	df	P-Value
General Practitioners	21	121.74	73.54	6	0.000*
Surgeons	92	148.78			
Internists	61	194.54			
Pediatrics	62	165.5			
Gynecologist & Obstetricians	18	206.56			
Ophthalmologists	11	188.86			
Others	39	56.22			
Total	304				

Kruskal Wallis Test for grouping variable of Specialty
* Significant at 0.05 level

This result matches with many other studies which confirm such differences per specialty (Campbell, 2007; Saito, et al., 2010; Alssageer & Kowalski, 2012; Ashar, et al., 2004). What are the most exposed specialties may differ among these studies, but the common among all the literature is that the gynecologists/obstetrics, internists mainly cardiologists, pediatrics and ophthalmologists are among the most exposed specialties, while general practitioners, psychologists (other group) and anesthesiologist (other group) are among the lowest exposed specialties. Surgeons come at the middle. These completely match with the findings of this study. The higher numbers of patients are treated and prescriptions are prescribed by these specialties are the main driver of this higher exposure among these specialties.

4.6.2.6 There are no statistically significant differences in exposure due to Holding a Managerial Position

Table (4.6-10): Mean Rank and Significance for Total Exposure and Holding a Managerial Position shows that the P-Value is 0.072 which is greater than the level of significance $\alpha = 0.05$. The null hypothesis is rejected, and that there are no statistically significant differences among the respondents in their exposure due to holding a managerial position.

Table (4.6-10): Mean Rank and significance for Total Exposure o and Holding a Managerial Position

Holding a Managerial Position	N	Mean Rank	Mann-Whitney U	Wilcoxon W	Z	P-Value
Yes	100	165.46	8904	29814	-1.8	0.072
No	204	146.15				
Total	304					

Mann-Whitney Test for grouping variable of Holding a Managerial Position

This is unexpected result because managerial positions are actually associated with more influence on other colleagues and drug choices in hospitals formularies, which make this group of physicians, who hold such managerial positions, are among the key target groups for pharmaceutical companies. This result may be explained by the high number of physicians who reported that he/she holds a managerial position, and this is associated with the political de facto divide between Gaza and West bank. Other explanation may be suggested that holding a managerial position is not a contributing factor for the exposure to the marketing practice due to the effective role of drug committees or the decentralization of clinical decisions among physicians.

4.6.2.7 There are statistically significant differences in exposure due to Participating in Committees

Table (4.6-11): Mean Rank and Significance for Total Exposure and Participating in Committees shows that the P-Value is 0.002 which is smaller than the level of significance $\alpha = 0.05$. The null hypothesis is rejected, and there are statistically significant differences among respondents in their exposure due to participation in committees like scientific, drug and referral committees.

Table (4.6-11): Mean Rank and Significance for Total Exposure Participating in Committees

Participating in Committees	N	Mean Rank	Mann-Whitney U	Wilcoxon W	Z	P-Value
Yes	116	172.53	8580	26346	-3.122	0.002*
No	188	140.14				
Total	304					

Mann-Whitney Test for grouping variable of Participating in committees
* Significant at 0.05 level

This result matches with Campbell, et al. (2007), and Alssageer & Kowalski, (2012). The researcher suggests that this group of physicians influences and decides on the choice of drugs for hospital formularies, what is called "Essential Drug Lists, disease management guidelines, patients' referrals, and the medical education and training, so it is not surprisingly to be one of the key targeted groups for pharmaceutical companies and this explains such higher exposure to the marketing practices. This confirms the pervious explanations about the effective role of committees and decentralization of clinical decision, as it seems that participating in committees is more important than managerial position.

4.6.3 Difference in Exposure due to Practice Setting Characteristics

In this section, the researcher seeks to identify the statistically significant differences among the respondents in their exposure to the marketing practices due to practice setting characteristics which include hospitals and departments they work at, having a private clinic and its location, working at NGOs, the average number of patients treated by physicians per day, and the average number of prescriptions prescribed by physician per day.

4.6.3.1 There are statistically significant differences in exposure due to Hospitals

Table (4.6-12): Mean Rank and Significance for Total Exposure and Hospitals shows that Chi-square value 43.516 and P-Value ≤ 0.001 which is smaller than the level of significance $\alpha = 0.05$. The null hypothesis is rejected, and there are statistically significant differences among respondents in their exposure due to the hospitals they work at.

Table (4.3-12): Mean Rank and Significance for Total Exposure and Hospital

Hospital	N	Mean Rank	Chi-Square	df	P-Value
Al-Shifa Hospital	86	157.78	43.416	12	0.000*
Nasser Hospital	43	186.17			
European Gaza Hospital	38	95.43			
Al-Aqsa Hospital	26	140.08			
Kamal Odwan Hospital	14	138.82			
Al-Najjar Hospital	20	126.85			
Al-Naser Hospital	20	166.6			
Beit Hanoun Hospital	14	215.86			
Al-Dorrah Hospital	12	174.75			
Al-Rantesi Hospital	11	104.41			
Al-Helal (Emirate) Hospital	9	180.94			
Gaza Eye Hospital	9	192.94			
Gaza Psychological Hospital	2	36			
Total	304				

Kruskal Wallis Test for grouping variable of Hospital
* Significant at 0.05 level

These results show that physicians at Beit Hanoun Hospital and Gaza Eye Hospital have the highest exposure while, physicians at Gaza Psychology Hospital and European Gaza Hospital have the lowest exposure. The rest of the hospitals come in middle according to the following descending rank, Nasser Hospital, Al-Helal (Emirate) Hospital, Al-Dorrah Hospital, Al-Naser Hospital, Al-Shifa Hospital, Al-Aqsa Hospital, Kamal Odwan Hospital, Al-Najjar Hospital and Al-Rantesi Hospital.

Some of these differences in exposure among MOH hospitals can be explained by the specialties distribution among these hospitals. For example, high exposure of physicians at Gaza Eye Hospital is explained by the high exposure of ophthalmologists to the marketing practices, in contrast the low exposure of physicians at Gaza Psychology Hospital is explained by low exposure of psychologists to marketing practices. But, why do these differences exist among general hospitals? Deeper studies are needed to explain such significant differences, and policy makers have to find out the underlining causes which may relate to pharmaceutical companies' and/or physicians' factors.

4.6.3.2 There are statistically significant differences in exposure due to Departments

Table (4.6-13): Mean Rank and Significance for Total Exposure and Department shows that Chi-square value 74.993 and P-Value ≤ 0.001 which is smaller than the level of significance $\alpha = 0.05$. The null hypothesis is rejected, and there are statistically significant differences among the respondents in their exposure due to the departments they work at.

Table (4.6-13): Mean Rank and Significance for Total Exposure Department

Department	N	Mean Rank	Chi-Square	df	P-Value
Reception and Emergency	14	154.21	74.993	6	0.000*
Surgery	91	144.23			
Internal Medicine	64	193.88			
Pediatric	66	163.33			
Gynecology & Obstetrics	17	208.94			
Ophthalmology	11	188.18			
Others	41	55.27			
Total	304				

Kruskal Wallis Test for grouping variable of Department

These results are too similar to the result for specialty, which may confirm the previous suggestion that physicians considered themselves as specialists after they have worked for some period in a specific department and also, confirm that pharmaceutical companies deal with department as a specialty.

4.6.3.3 There are statistically significant differences in exposure due to Having a Private Clinic

Table (4.6-14): Mean Rank and Significance for Total Exposure and Having a Private Clinic shows that the P-Value is ≤ 0.001 which is smaller than the level of significance $\alpha = 0.05$. The null hypothesis is rejected, and there are statistically significant differences among respondents in their exposure due to having a private clinic or not.

Table (4.6-14): Mean Rank and Significance for Total Exposure Having a Private Clinic

Having a Private Clinic	N	Mean Rank	Mann-Whitney U	Wilcoxon W	Z	P-Value
Yes	152	185.58	6524.5	18152.5	-6.561	0.000*
No	152	119.42				
Total	304					

Mann-Whitney Test for grouping variable of Having a private clinic

These results match with many studies which confirm that respondents who have private clinics or work in private sector are exposed more to the marketing practices than those respondents who have no private work (Campbell, et al., 2007; Saito, et al., 2010; Alssageer & Kowalski, 2012; Anderson, et al., 2009; Ashar, et al., 2004). This may be attributed to that physicians who have private clinics are a key targeted group for pharmaceutical companies, because they treat more patients, treat patients with higher

economic status, treat patients insured by private sectors and treat patients who seek for drugs outside MOH. All these groups of patients are ready to pay for new marketed drugs of pharmaceutical companies.

4.6.3.4 There are no statistically significant differences in exposure due to the Location of the Private Clinic

Table (4.6-15): Mean Rank and Significance for Total Exposure and Location of the Private Clinic shows that the Chi-Square value is 2.132 and P-Value is 0.711 which is greater than the level of significance $\alpha = 0.05$. The null hypothesis is accepted, and there are no statistically significant differences among respondents s in their exposure due to the location of the private clinic.

Table (4.6-15): Mean Rank and Significance for Total Exposure Location of Private Clinic

Location of the Private Clinic	N	Mean Rank	Chi-Square	df	P-Value
North	17	75.56	2.132	4	0.711
Gaza	61	76.27			
Middle	21	69.43			
Khanyunis	28	74.79			
Rafah	18	60.89			
Total	145				

Kruskal Wallis Test for grouping variable of Location of the Private Clinic

This result may indicate to the effective targeting and reaching of the pharmaceutical companies to physicians who have private clinics regardless of their clinics' locations.

4.6.3.5 There are no statistically significant differences in exposure due to Working at NGOs

Table (4.6-16): Mean Rank and Significance for Total Exposure and Working at NGOs shows that the P-Value is 0.271 which is greater than the level of significance. The null hypothesis is accepted, and there are no statistically significant differences among the respondents in their exposure due to working at NGOs.

Table (4.6-16): Mean Rank and Significance for Total Exposure and Working at NGOs

Working at NGOs	N	Mean Rank	Mann-Whitney U	Wilcoxon W	Z	P-Value
Yes	85	161.41	8550	32640	-1.101	0.271
No	219	149.04				
Total	304					

Mann-Whitney Test for grouping variable of Working at NGOs

This is unexpected result which contradicts with Ashar, et al. (2004) who found differences among physicians in group versus physicians in solo practice. It well known that the physicians who work at NGOs are important target for pharmaceutical companies in similar degree to physicians in a private sector. The researcher suggests that the dependency of NGOs on donated drugs shipments in last few years may change this strategy by pharmaceutical companies, the involvement of organization management –other than physicians- in purchasing process and purchasing of cheapest drugs may minimize the role of marketing practices; these may lead to the reluctance of pharmaceutical companies to target NGOs' physicians.

4.6.3.6 There are statistically significant differences in exposure due to Average Number of Patients Treated by Physicians per Day

Table (4.6-17): Mean Rank and Significance for Total Exposure and Average Number of Patients Treated by Physicians per Day shows that Chi-square value 34.749 and P-Value ≤ 0.001 which is smaller than the level of significance $\alpha = 0.05$. The null hypothesis is rejected, and there are statistically significant differences among respondents in their exposure due to the average number of treated patients by physicians per day.

Table (4.6-17): Mean Rank and Significance for Total Exposure and Average Number of Patients Treated by Physician per Day

Average Number of Patients Treated by physician per Day	N	Mean Rank	Chi-Square	df	P-Value
Less than 10	36	78.29	34.749	4	0.000*
10 - Less than 20	85	146.86			
20 - Less than 30	75	147.55			
30 - Less than 40	58	161.07			
40 and more	39	188.74			
Total	293				

Kruskal Wallis Test for grouping variable of Average Number of Patients Treated by Physician per Day
* Significant at 0.05 level

This result may be simply explained by that those respondents who treat a larger number of patients are main group for pharmaceutical companies to be targeted by the marketing practices because they represent the main source of business for them.

4.6.3.7 There are statistically significant differences in exposure due to Average Number of Prescriptions prescribed by Physicians per Day

Table (4.6-18): Mean Rank and Significance for Total Exposure and Average Number of Prescription Prescribed by Physician per Day shows that Chi-square value 45.26 and P-Value ≤ 0.001 which is smaller than the level of significance $\alpha = 0.05$. The null hypothesis is rejected, and there are statistically significant differences among respondents in their exposure due to the average number of medical prescriptions prescribed by physician per day.

Table (4.6-18): Mean Rank and Significance for Total Exposure and Average Number of Prescription Prescribed by Physician per Day

Average Number of Prescriptions Prescribed by Physician per Day	N	Mean Rank	Chi-Square	df	P-Value
Less than 10	77	95.720	45.256	3	0.000*
10 - Less than 20	103	152.710			
20 - Less than 30	52	162.660			
30 and more	61	188.730			
Total	293				

Kruskal Wallis Test for grouping variable of Average Number of prescription prescribed by physician per day
* Significant at 0.05 level

This clearly confirms the previous findings because patients' numbers and medical prescriptions are associated. This may be against pharmaceutical companies' claims that their marketing practices aimed to improve physicians' practice -among all physicians- to enhance patients care. Hence, why are their marketing practices selective?

4.7 Differences in Attitude due to Physicians' Characteristics

Testing the differences among MOH hospitals' physicians in their attitudes toward the marketing practices due to physicians' characteristics which include personal, professional and practice setting characteristics is the *second hypothesis* of this study. Section 4.7 is designed to address this hypothesis.

The researcher used the term "*Total Attitude*" to reflect the attitude of physicians toward all marketing practices together which represents the mean of all attitudes paragraphs from (41-75) in the questionnaire.

4.7.1 Difference in Attitudes due to Personal characteristics

In this subsection the researcher will seek to identify the statistically significant differences among respondents in their attitudes toward the marketing practices due to personal characteristics which include gender, age, average monthly income and income satisfaction.

4.7.1.1 There are no statistical significant differences in attitudes due to Gender

Table (4.7-1): Mean Rank and Significance for Total Attitude and Gender shows that the P-Value is 0.184 which is greater than the level of significance $\alpha = 0.05$. The null hypothesis is accepted, and there are no statistically significant differences among respondents in their attitudes due to gender groups.

Table (4.7-1): Mean Rank and Significance for Total Attitude and Gender

Gender	N	Mean Rank	Mann-Whitney U	Wilcoxon W	Z	P-Value
Female	29	131.9	3390	3825	-1.327	0.184
Male	275	154.67				
Total	304					

Mann-Whitney Test for grouping variable of Gender

This result matches with Anderson, et al. (2009) study which shows that age is not associated with any attitude differences. This matches with our exposure findings and confirms that gender is not a contributing factor for marketing practices attitude and exposure.

4.7.1.2 There are no statistically significant differences in attitudes due to Age

Table (4.7-2): Mean Rank and Significance for Total Attitude and Age shows that Chi-square value is 10.395 and P-Value is 0.109 which is greater than the level of significance $\alpha = 0.05$. The null hypothesis is accepted, and there are no statistically significant differences among respondents in their attitudes toward marketing practices due to age.

Table (4.7-2): Mean Rank and Significance for Total Attitude and Age

Age	N	Mean Rank	Chi-Square	df	P-Value
26 - Less than 30	25	142.28	10.395	6	0.109
30 - Less than 35	13	145.31			
35 - Less than 40	39	167.27			
40 - Less than 45	102	137.49			
45 - Less than 50	43	177.9			
50 - Less than 55	44	168.56			
55 and older	38	139.5			
Total	304				

Kruskal Wallis Test for grouping variable of Age

This result match with the result of Anderson, et al. (2009) study which reveals that age is not a contributing factor for marketing practices attitude and exposure.

4.7.1.3 There are no statistically significant differences in attitudes due to Average Monthly Income

Table (4.7-3): Mean Rank and Significance for Total Attitude and Average Monthly Income shows that Chi-square value is 0.761 and P-Value is 0.944 which is greater than the level of significance $\alpha = 0.05$. The null hypothesis is accepted, and there are no statistically significant differences among respondents in their attitudes due to average monthly income groups.

Table (4.7-3): Mean Rank and Significance for Total Attitude and Average Monthly Income

Average Monthly Income	N	Mean Rank	Chi-Square	df	P-Value
< 3000	14	151.07	0.761	4	0.944
3000 - < 4000	42	145.52			
4000 - < 5000	118	147.63			
5000 - < 6000	76	155.33			
6000 and more	51	156.83			
Total	301				

Kruskal Wallis Test for grouping variable of Average Monthly Income

This means that physicians' attitude does not differ among respondents with high or low monthly income and the differences that are found in exposure appeared due to higher targeting of those physicians with high income from pharmaceutical companies as explained.

4.7.1.4 There are no statistically significant differences in attitudes due to Income Satisfaction

Table (4.7-4): Mean Rank and Significance for Total Attitude and Income Satisfaction shows that Chi-square value is 2.325 and P-Value is 0.508 which is greater than the level of significance $\alpha = 0.05$. The null hypothesis is accepted, and there are no statistically significant differences among respondents in their attitudes due to income satisfactions.

Table (4.7-4): Mean Rank and Significance for Total Attitude and Income Satisfaction

Income Satisfaction	N	Mean Rank	Chi-Square	df	P-Value
Very Satisfied	21	140.86	2.325	3	0.508
Satisfied	130	145.56			
Dissatisfied	109	160.83			
Very Dissatisfied	44	157.93			
Total	301				

Kruskal Wallis Test for grouping variable of Income Satisfaction

This result again confirms all other findings of this study regarding the exposure and attitudes due to income and income satisfaction. Therefore, a general conclusion can be reached that income and income satisfaction are not a contributing factor for exposure and attitudes of physicians in the Gaza Strip. These results contradict with the results of Al-Hamdi, et al. (2013) in Yemen, who found that dissatisfied physicians with their income had a positive attitude toward marketing practice and they benefitted from this practices by demanding pharmaceutical companies to satisfy their needs, either scientifically or personally, and conclude that income satisfaction may be a contributing factor to the attitude toward pharmaceutical marketing practices. Our findings exclude the presence of Yemen's situation in the Gaza Strip.

4.7.2 Difference in Attitudes due to Professional Characteristics

In this section, the researcher seeks to identify the statistically significant differences among the respondents in their attitudes toward marketing practices due to professional characteristics which include graduation country of Bachelors, years of practicing medicine in Gaza, highest educational degree, job rank, specialty, holding a managerial position, and participating in committees.

4.7.2.1 There are no statistical significant differences in attitudes due to Graduation Country of Bachelors

Table (4.7-5): Mean Rank and Significance for Total Attitude and Graduation Countries of Bachelors shows that Chi-square value is 4.895 and P-Value is 0.429 which is greater than the level of significance $\alpha = 0.05$. The null hypothesis is accepted, and there are no statistically significant differences among respondents in their attitudes due to graduation countries of Bachelors.

Table (4.7-5): Mean Rank and Significance for Total Attitude and Graduation Countries of Bachelors

Graduation Countries of Bachelors	N	Mean Rank	Chi-Square	df	P-Value
Eastern Europe Countries	154	157.19	4.895	5	0.429
Western Europe Countries	10	161.7			
Asia Countries	7	118.36			
Arab countries	100	141.64			
Palestine	13	157.65			
Turkey	14	120.36			
Total	298				

Kruskal Wallis Test for grouping variable of Graduation Country of Bachelor's

This result contradicts with Lea, et al. (2010) study which found significant differences in attitudes due to graduation universities in Norway. In this study, the researcher suggested that the diversity in the countries from which MOH hospitals' physicians graduated may show such differences but, it seems that the graduation countries do not make such differences among MOH hospitals' physicians, and graduation countries are not a factor considered by pharmaceutical companies in targeting physicians.

4.7.2.2 There are no statistical significant differences in attitudes due to Years of Practicing Medicine in Gaza

Table (4.7-6): Mean Rank and Significance for Total Attitude and Years of Practicing Medicine in Gaza shows that Chi-square value is 4.434 and P-Value is 0.489 which is greater than the level of significance $\alpha = 0.05$. The null hypothesis is accepted, and there are no statistically significant differences among respondents in their attitudes due to years of practicing medicine in Gaza.

Table (4.7-6): Mean Rank and Significance for Total Attitude and Year of Practicing Medicine in Gaza

Years of Practicing Medicine in Gaza	N	Mean Rank	Chi-Square	Df	P-Value
1 - Less than 5	40	139.11	4.434	5	0.489
5 - Less than 10	59	154.58			
10 - Less than15	86	138.43			
15 - Less than 20	52	164.61			
20 - Less than 25	31	158.08			
25 and more	32	159.39			
Total	300				

Kruskal Wallis Test for grouping variable of Years of Practicing Medicine in Gaza

This result contradicts with Zaki (2014) who is the only one who found such differences in the attitudes among physicians due to years of experience. Even Alssageer & Kowalski (2012) and Saito, et al. (2010) who found such differences in exposure did not find such differences in the attitudes due to years of practice medicine.

4.7.2.3 There are no statistically significant differences in attitudes due to Educational Degree

Table (4.7-7): Mean Rank and Significance for Total Attitude and Educational Degree shows that Chi-square value is 6.823 and P-Value is 0.146 which is greater than the level of significance $\alpha = 0.05$. The null hypothesis is accepted, and there are no statistically differences among the respondents in their attitudes due to educational degree.

Table (4.7-7): Mean Rank and Significance for Total Attitude and Educational Degree

Educational Degree (Highest)	N	Mean Rank	Chi-Square	Df	P-Value
Bachelors	73	160.11	6.823	4	0.146
High Diploma	37	145.43			
Master	76	167.93			
Doctoral	24	131			
Board	92	138.89			
Total	302				

Kruskal Wallis Test for grouping variable of Educational Degree (Highest)

Despite the significant differences shown in the exposure, no differences were found in attitudes due to educational degree, this confirms that attitude is very difficult to change; even those respondents who are exposed more to the marketing practice may have similar attitudes to those who exposed less to marketing practices. This encourages the researcher to seek to determine the correlation between the exposure and the attitude.

4.7.2.4 There are no statistically significant differences in attitudes due to Job Rank

Table (4.7-8): Mean Rank and Significance for Total Attitude and Job Rank shows that Chi-square value is 0.229 and P-Value is 0.892 which is greater than the level of significance $\alpha = 0.05$. The null hypothesis is accepted, and there are no statistically significant differences among respondents in their attitudes due to job rank.

Table (4.7-8): Mean Rank and Significance for Total Attitude and Job Rank

Job Rank	N	Mean Rank	Chi-Square	df	P-Value
Resident	67	151.66	0.229	2	0.892
Specialist	123	151.09			
Consultant	108	146.35			
Total	298				

Kruskal Wallis Test for grouping variable of Job Rank

This result contradicts with Ashar, et al. (2004) and Reast & Carson (2000) studies who suggested such differences in attitudes by job rank while, partially matches with Alosaimi, et al. (2013a), who reported no significant differences in the overall attitude toward gifts giving by job rank but significant differences in type-specific gift. Despite the significant differences shown in the exposure in favour consultants, no significant differences are found in attitudes; this confirms that the exposure is driven by pharmaceutical companies' strategies.

4.7.2.5 There are statistically significant differences in attitudes due to Specialty

Table (4.7-9): Mean Rank and Significance for Total Attitude and Specialty shows that Chi-square value 24.374 and P-Value is ≤ 0.001 which is smaller than the level of significance $\alpha = 0.05$. The null hypothesis is rejected, and there are statistically significant differences among respondents in their attitude due to specialty.

Table (4.7-9): Mean Rank and Significance for Total Attitude and Specialty

Specialty	N	Mean Rank	Chi-Square	df	P-Value
General Practitioners	21	148.88	24.374	6	0.000*
Surgeons	92	167.83			
Internists	61	186.50			
Pediatrics	62	120.65			
Gynecologist & Obstetricians	18	134.47			
Ophthalmologists	11	117.09			
Others	39	134.05			
Total	304				

Kruskal Wallis Test for grouping variable of Specialty
* Significant at 0.05 level

This result matches with many other studies which confirm such differences per specialty (Korenstein, et al., 2010; Ashar, et al., 2004; Reast & Carson, 2000). What are the

specialties which may have the most positive attitude may differ among these studies, but the common is that the surgeons and internists are among the physicians who have highest positive attitudes, while pediatrics and ophthalmologists, are among the physicians who have the least positive attitudes. Psychologists and anesthesiologist come at the middle. This is almost matching with our study findings.

The interesting observations are specialties with high exposure (as ophthalmologist and pediatrics) have lowest attitudes and specialties with low exposure (as surgeons) have the highest attitude. Internists are the only specialists who have both high attitude and high exposure at the same time. This confirms that the attitude toward marketing practice is multi-factorial, difficult to be explained by one variable.

4.7.2.6 There are no statistically significant differences in attitudes due to Holding a Managerial Position

Table (4.7-10): Mean Rank and Significance for Total Attitude and Holding a Managerial Position shows that the P-Value is 0.074 which is greater than the level of significance $\alpha = 0.05$. The null hypothesis is accepted, and there are no statistically significant differences among respondent in their attitude due to holding managerial positions.

Table (4.7-10): Mean Rank and Significance for Total Attitude and Holding a Managerial Position

Holding a Managerial Position	N	Mean Rank	Mann-Whitney U	Wilcoxon W	Z	P-Value
Yes	100	139.66	8915.5	13965.5	-1.784	0.074
No	204	158.8				
Total	304					

Mann-Whitney Test for grouping variable of Holding a Managerial Position.

The researcher expected that physicians who have managerial positions have more negative or at least low positive attitude toward marketing practices, but the finding exclude this. This finding matches with exposure results which found no significant differences among the respondents in their exposure due to holding a managerial position, which was explained by high number of respondents who reported that he/she currently holds a managerial position.

4.7.2.7 There are no statistically significant differences in attitudes due to Participating in Committees

Table (4.7-11): Mean Rank and Significance for Total Attitude and Participating in Committees shows that P-Value is 0.159 which is greater than the level of significance $\alpha = 0.05$. The null hypothesis is accepted, and there are no statistically significant

differences among respondents in their attitude due to participating in committees like scientific, drug and referral committees.

Table (4.7-11): Mean Rank and Significance for Total Attitude and Participating in Committees

Participating in Committees	N	Mean Rank	Mann-Whitney U	Wilcoxon W	Z	P-Value
Yes	116	143.46	9855	16641	-1.409	0.159
No	188	158.08				
Total	304					

Mann-Whitney Test for grouping variable of Participating in Committees

This means that respondents who participate in committees have similar attitudes to those who do not participate in committees. This is a good situation for healthcare system. This finding doesn't match with exposure results which found differences in exposure due to participating in committee which confirm that exposure is driven by marketing strategy of pharmaceutical companies.

4.7.3 Difference in Attitude due to Practice Setting Characteristics

In this subsection, the researcher seeks to identify the statistically significant differences among respondents in their attitudes toward the marketing practices due to physicians' practice setting characteristics which include hospitals and departments they work at, having a private clinic and its location, working at NGOs, average number of patients treated by physician per day, and average number of prescriptions prescribed by physician per day.

4.7.3.1 There are statistically significant differences in attitudes due to Hospitals

Table (4.7-12): Mean Rank and Significance for Total Attitude and Hospitals shows that Chi-square value 30.534 and P-Value is 0.002 which is smaller than the level of significance $\alpha = 0.05$. The null hypothesis is rejected, and there are statistically significant differences among respondents in their attitudes due to the hospitals they work at.

Table (4.7-12): Mean Rank and Significance for Total Attitude and Hospital

Hospital	N	Mean Rank	Chi-Square	Df	P-Value
Al-Shifa Hospital	86	156.84	30.534	12	0.002*
Nasser Hospital	43	139.67			
European Gaza Hospital	38	149.86			
Al-Aqsa Hospital	26	141.77			
Kamal Odwan Hospital	14	149.11			
Al-Najjar Hospital	20	201.53			
Al-Naser Hospital	20	135.03			
Beit Hanoun Hospital	14	235.86			
Al-Dorrah Hospital	12	138.92			
Al-Rantesi Hospital	11	103.82			
Al-Helal (Emirate) Hospital	9	126.44			
Gaza Eye Hospital	9	103.56			
Gaza Psychological Hospital	2	242.75			
Total	304				

Kruskal Wallis Test for grouping variable of Hospital
* Significant at 0.05 level

These results show that physicians at Gaza Psychology Hospital have the highest attitude toward the marketing practices, while physicians at Gaza Eye Hospital physicians have the lowest attitudes. The rest of the hospitals comes in between according to the following descending rank , Beit Hanoun Hospital, Al-Najjar Hospital, Al-Shifa Hospital, European Gaza Hospital, Kamal Odwan Hospital, Al-Aqsa Hospital, Nasser Hospital, Al-Dorrah Hospital, Al-Helal (Emirate) Hospital, Al-Naser Hospital, and Al-Rantesi Hospital.

The interesting observations are that physicians at hospitals who reported high exposure (as Gaza Eye Hospital) have lower attitudes, and those reported low exposure (as Al-Najjar Hospital) have high attitudes. Physicians at Beit Hanoun Hospital are the only physicians who reported both high attitudes and high exposure at the same time, while physicians at Al-Rantesi Hospital are the physicians who reported both low attitude and low exposure. This again, confirms that the attitude is complex multi-factorial, difficult to be explained or predicted by one variable. Decision makers have to find out the causes of such attitudes by further research including qualitative studies.

4.7.3.2 There are statistically significant differences in attitudes due to Department

Table (4.7-13): Mean Rank and Significance for Total Attitude and Departments shows that Chi-square value 20.203 and P-Value = 0.003 which is smaller than the level of significance $\alpha = 0.05$. The null hypothesis is rejected, and there are statistically significant differences among respondent in their attitudes due to the departments they work at.

Table (4.7-13): Mean Rank and Significance for Total Attitude and Department

Department	N	Mean Rank	Chi-Square	Df	P-Value
Reception and Emergency	14	173.71	20.203	6	0.003*
Surgery	91	165.25			
Internal Medicine	64	180.70			
Pediatric	66	124.70			
Gynecology & Obstetrics	17	143.26			
Ophthalmology	11	122.00			
Others	41	129.68			
Total	304				

Kruskal Wallis Test for grouping variable of Department
* Significant at 0.05 level

These results are similar to the results of specialty, and confirm that the specialties and departments with high exposure have low attitudes and vice versa. Again, department is equivalent to specialty in the definition of physicians and pharmaceutical companies in the Gaza Strip.

4.7.3.3 There are no statistically significant differences in attitudes due to Having a Private Clinic

Table (4.7-14): Mean Rank and Significance for Total Attitude and Having Private Clinic shows that P-Value is = 0.887 which is greater than the level of significance $\alpha = 0.05$. The null hypothesis is accepted, and there are no statistically significant differences among the respondents in their attitudes due to having a private clinic or not.

Table (4.7-14): Mean Rank and Significance for Total Attitude and Having Private Clinic

Having a Private Clinic	N	Mean Rank	Mann-Whitney U	Wilcoxon W	Z	P-Value
Yes	152	151.78	11443	23071	-0.142	0.887
No	152	153.22				
Total	304					

Mann-Whitney Test for grouping variable of Having a Private Clinic

This result matches with Siddiqi, et al. (2011) who found no significant differences among governmental physicians and private physicians. Such similarity in the attitude between physicians who work at MOH hospitals only and those who work at MOH hospitals and have a private clinic is a good situation for healthcare system; as it is shown by many studies that physicians who work at private sector generally have more positive attitude toward marketing practices (Anderson, et al., 2009; Ashar, et al., 2004).

4.7.3.4 There are statistically significant differences in attitudes due to Location of the Private Clinic

Table (4.7-15): Mean Rank and Significance for Total Attitude and Location of the Private Clinic, shows that the Chi-Square value is 10.234 and P-Value is 0.037 which is smaller than the level of significance $\alpha = 0.05$. The null hypothesis is accepted, and there are statistically significant differences among respondents in their attitudes due to the locations of their private clinic.

Table (4.7-15): Mean Rank and Significance for Total Attitude and Location of the Private Clinic

Location of the Private Clinic	N	Mean Rank	Chi-Square	df	P-Value
North	17	96.21	10.234	4	0.037*
Gaza City	61	73.84			
Middle	21	57.14			
Khanyunis	28	63.77			
Rafah	18	81.08			
Total	145				

Kruskal Wallis Test for grouping variable of Location of the Private Clinic
* Significant at 0.05 level

These results show that physicians who have private clinics in the North have the highest attitudes toward marketing practices, while those who have private clinics in Middle have the lowest attitudes. Physicians who have private clinics in Rafah, Gaza city and Khanyunis come at the middle.

These results are strange, because there are no differences in the attitudes of physicians who have private clinics compared with those who have no private clinics, and there are no significant differences in the exposure due to the location of the private clinics. The only explanation may be suggested is that the role and behaviour of PCRs is the influencer. The North area again comes at the highest attitude for marketing practices confirming the previous result which shows that Beit Hanoun is among the two highest hospitals in having positive attitudes.

4.7.3.5 There are no statistically significant differences in attitudes due to Working at NGOs

Table (4.7-16): Mean Rank and Significance for Total Attitude and Working at NGOs shows that P-Value is 0.127 which is greater than the level of significance $\alpha = 0.05$. The null hypothesis is accepted, and there are no statistically significant differences among respondents in their attitudes due to working at NGOs.

Table (4.7-16): Mean Rank and Significance for Total Attitude and Working at NGOs

Working at NGOs	N	Mean Rank	Mann-Whitney U	Wilcoxon W	Z	P-Value
Yes	85	164.84	8259	32349	-1.525	0.127
No	219	147.71				
Total	304					

Mann-Whitney Test for grouping variable of Working at NGOs

This result matches with the exposure result which shows no differences in exposure, but this contradicts with Ashar, et al. (2004) who found differences among physicians in group versus physicians in solo practice, but

4.7.3.6 There are no statistically significant differences in attitudes due to Average Number of Patients Treated by Physicians per Day

Table (4.7-17): Mean Rank and Significance for Total Attitude and Average Number of Patients Treated by physician per Day shows that Chi-square value is 4.628 and P-Value =0.328 which is greater than the level of significance $\alpha = 0.05$. The null hypothesis is accepted, and there are no statistically significant differences among respondents in their attitudes due to the average number of patients treated by physicians per day.

Table (4.7-17): Mean Rank and Significance for Total Attitude and Average Number of Patients Treated by Physician per Day

Average Number of Patients Treated by Physician per Day	N	Mean Rank	Chi-Square	df	P-Value
Less than 10	36	135.080	4.628	4	0.328
10 - Less than 20	85	139.630			
20 - Less than 30	75	156.920			
30 - Less than 40	58	139.980			
40 and more	39	165.420			
Total	293				

Kruskal Wallis Test for grouping variable of Average Number of Patients treated by Physician per Day

Despite of the significant difference in exposure among physicians due to the average number of patient treated by physician per day, there are no differences in the attitudes due to this variable, which is positive situation for healthcare system. This result matches and may be explained by the similarity of attitudes among physicians who have private clinic vs who have no private clinic. This contradicts with old study by Andaleeb and Tallman (1996) who found that physicians' attitudes are influenced by physicians' volume of patients, the higher the number of patients, the more favourable attitudes toward PCRs.

4.7.3.7 There are no statistically significant differences in attitudes due to Average Number of Prescription Prescribed by Physicians per Day

Table (4.7-18): Mean Rank and Significance for Total Attitude and Average Number of prescription Prescribed by Physician per Day shows that that Chi-square value is 2.572 and P-Value =0.462 which is greater than the level of significance $\alpha = 0.05$. The null hypothesis is accepted, and there are no statistically significant differences among respondents in their attitudes due to the average number of medical prescriptions prescribed by physicians per day.

Table (4.7-18): Mean Rank and Significance for Total Attitude and Average Number of Prescriptions Prescribed by Physician per Day

Average Number of Prescriptions You Prescribe per Day	N	Mean Rank	Chi-Square	df	P-Value
Less than 10	77	139.33	2.572	3	0.462
10 - Less than 20	103	142.17			
20 - Less than 30	52	153.31			
30 and more	61	159.45			
Total	293				

Kruskal Wallis Test for grouping variable of Average number of Prescription Prescribed by Physician per day

This confirms and matches with the previous data which found no differences in attitudes due to average number of patients treated by physician per day.

4.8 Correlation between Attitude and Exposure

Testing the correlation between the attitude and the exposure of physicians toward the marketing practices of pharmaceutical companies is the *third hypothesis* of this study. This was measured by the correlation between the total attitude (average attitude of physician toward all marketing practices) and the total exposure (the sum of exposure to each marketing practices multiplied by its weights)

Table (4.8-1): Correlation Coefficient and P-Value for the Correlation between the Total attitude and Total Exposure shows that the correlation coefficient of the correlation between total attitude and total exposure of all marketing practices is 0.152 with positive sign and the p-value is 0.008. This means that respondents' attitude is significantly correlated with their exposure, but this correlation is weak positive.

Table (4.8-1): Correlation Coefficient and P-Value for the Correlation between Total Attitude and Total Exposure to the Marketing Practices

Spearman's rho	Total Attitude		
	Correlation Coefficient	Sig. (2-tailed)	N
Total Exposure to the Marketing Practices	+ 0.152*	0.008	304

* Correlation is significant at the 0.05 level (2-tailed).

This result matches with many studies which confirm such significant weak to modest positive correlation as Wazana, (2000), Hodges, (2005), Sarikaya, et al. (2009), Saito, et al. (2010) and Austad, et al. (2011). This confirms that despite that physician's attitude toward marketing practices is complex, multi-factorial and difficult to be explained by one factor, it is associated with the exposure to the marketing practices.

The researcher suggests that there are other factors may influence the attitude of physicians beside the exposure to marketing practices and thus the total attitude is drawn by the net results of these multiple factors including the exposure.

The factors that may play role in forming the attitude toward marketing practices - beside the exposure- are the information and educational support receive and selling techniques (Andaleeb and Tallman, 1996), ethical behaviour and expertise of PCRs (Lagace, et al., 2001), manipulative and aggressive selling style (Manchanda, et al., 2005), training environment and physician culture (Stark, 2014), the policies that regulate interaction with industry and ethics that govern such interactions (Carmody & Mansfield, 2010; McCormick, et al., 2001; Manchanda, et al., 2005) and educational interventions

about this interaction (Zipkin and Steinman, 2005; Wofford and Ohl, 2005; Carroll, et al., 2007). All these factors represent may affect the extent and direction of the correlation between attitude as dependent variable and exposure as independent variable.

Finding out these external factors that may modify the correlation between physicians and pharmaceutical companies is key for policy makers in pharmaceutical companies and regulatory bodies. For pharmaceutical companies, to manage divergence between exposure and attitude, while for regulatory bodies to enforce these factors to minimize the influence of exposure on physician's attitude.

Therefore, it is not enough to have high exposure to marketing practices to have positive attitude toward. More studies are needed to explain the effects of these factors -and may be other external factors- on the attitude of physicians. This may explain the clear discrepancies in the attitudes shown among physicians.

4.9 Correlation between Attitude and Willingness

The correlation of attitude and willingness of physicians to the participation in marketing practice is *fourth hypothesis* of this study.

(4.9-1): Correlation Coefficient and P-Value for the Correlation between Total Attitude and Willingness to the Participation in the Marketing Practices shows that coefficient of the correlation between total attitude and willingness to the participation in the marketing practices is + 0.772 and P-value is less than 0.001. This means that the respondents' attitude is significantly and strongly correlated with their willingness.

Table (4.9-1): Correlation Coefficient and P-Value for the Correlation between Total Attitude and Willingness to the Participation in the Marketing Practices

Spearman's rho	Total Attitude		
	Correlation Coefficient	Sig. (2-tailed)	N
Willingness to the Participation in the Marketing Practices	+ 0.722*	0.000	304

* Correlation is significant at the 0.05 level (2-tailed).

This study is the first one to determine the correlation between the willingness and the attitude of the physicians, and confirm that there is a strong positive correlation between the willingness and attitude of physicians toward marketing practices of pharmaceutical companies, as around 60% of attitude ($r_s = 0.596$) could be explained by the willingness.

The researcher suggests that this strong positive correlation between the willingness and attitude reveals the absence of attitude- behaviour gaps and cognitive dissonance situation among respondents. This means that if a physician have positive attitude, he/she

will most probably participate and engage more in the marketing practices. In contrast, if physicians have negative attitude toward the marketing practices he/she will not participate in. Therefore, the presence of such correlation between the willingness and attitude is good for healthcare system.

This strong correlation does not eliminate the role of other factors that may influence this correlation between attitude and willingness. These factors are similar to these factors which affect the correlation between exposure and attitude.

4.10 Correlation between Attitude and Perception

The correlation of attitude with the perception of physicians about the influence of the marketing practice is *fifth hypothesis* of this study.

Table (4.10-1): Correlation Coefficient and P-Value for the Correlation between Total Attitude and Perception about the Influence of the Marketing Practices shows that the coefficient of the correlation between total attitude and perception about the influence of the marketing practice on their prescribing behaviour is 0.070 with negative sign and P-value is 0.225. This means that the respondents' attitude is not significantly correlated with their perception. The sign of the correlation coefficient is negative which indicate the inverse direct relationship -if the correlation is significant- which is the better situation.

Table (4.10-1): Correlation Coefficient and P-Value for the Correlation between Total Attitude and Perception about the Influence of the Marketing Practices

Spearman's rho	Total Attitude		
	Correlation Coefficient	Sig. (2-tailed)	N
Perception about the Influence of the Marketing Practices	- 0.070	0.225	304

As suggested before, finding out the correlation between the perception and the attitude is very important to govern the interaction between physicians and pharmaceutical companies. The study findings reveal the absence of such correlation which suggests that the respondents do not care how these marketing practices influence their prescribing behaviour to change their attitudes toward. Therefore, aggressive interventional approaches are needed to govern their interaction with pharmaceutical companies.

This finding is very critical for the prescribing behaviour and healthcare system, hence it is key for each physician to carry less attitude toward the marketing practices of pharmaceutical companies if he/she perceives these practices affect his/her prescribing choice.

4.11 Correlations between Attitude and Preparedness

Testing the correlation between the attitude and the preparedness of physicians to the regulation of the marketing practices is *sixth hypothesis* of this study.

Table (4.11-1): Correlation Coefficient and P-Value for the Correlation between Total Attitude and Preparedness to the Regulation of the Marketing Practice shows that the coefficient of the correlation between total attitudes and their preparedness to the regulation of marketing practice is 0.201 with negative sign and P-value is ≥ 0.001. This means that respondents' attitude is significantly correlated with their preparedness but this correlation is weak negative.

Table (4.11-1): Correlation Coefficient and P-Value for the Correlation between Total Attitude and Preparedness to the Regulation of the Marketing Practice.

Spearman's rho	Total Attitude		
	Correlation Coefficient	Sig. (2-tailed)	N
Preparedness to the Regulation of the Marketing Practices	- 0.201*	0.000	304

* Correlation is significant at the 0.05 level (2-tailed).

As discussed before, finding out the correlation between the attitude and the preparedness will give indication for future outcome, as the presence of such negative correlation means that as the regulation, codes and training increase attitudes of physicians will be less positive and this is the normal and expected.

This study is the first one to determine the correlation between the physicians' preparedness and their attitude and confirms that if physician are prepared well for the regulation of marketing practices and this preparedness makes him/her has less positive or even negative attitude toward the marketing practices.

Taken in consideration that the correlation is weak, this finding is important for each decision makers in MOH hospitals; that they have to prepare their practicing physicians to the interaction with pharmaceutical companies; training courses, formal regulations and ethical codes have a big role in such area.

Chapter Five: Conclusions & Recommandations

CHAPTER OUTLINE

5.1 Introduction

In this chapter, the researcher presents the study conclusions and recommendations. In order to make efficient use of the conclusions and recommendation of this study, the researcher proposes a framework to govern the interaction between MOH hospitals' physicians and pharmaceutical companies that aims to reach a mutually beneficial relationship between them which ensures patients' benefit. Finally, some ideas for future research are enlisted.

5.2 Study Conclusions

On the basis of the study findings, the following final conclusions were reached. The conclusions are divided into five categories:

- Conclusions related to physicians' characteristics
- Conclusions related to the exposure and attitude of physicians.
- Conclusions related to the willingness, perception and preparedness of physicians.
- Conclusions related to the differences in exposure and attitude of physicians.
- Conclusions related to the correlation of attitude with other variables.

5.2.1 Conclusions Related to Physicians' Characteristics

5.2.1.1 Personal Characteristics

- The majority of MOH hospitals' physicians are male, below 45 years, with average monthly income of NIS 4,774 and half of them have income satisfaction.

5.2.1.2 Professional Characteristics

- The vast majority of MOH hospitals' physicians graduated from Eastern European Countries and Arab countries and they are practicing medicine in Gaza for less than 15 years.
- The majority of MOH hospitals' physicians reported that they have high educational degrees, and they are specialists and consultants.
- One third of MOH hospitals' physicians hold managerial positions and more than one third participate in scientific/Drugs/Referral committees.

5.2.1.3 Practice Setting Characteristics

- More than half of MOH hospitals' physicians work at three hospitals and the distribution of them among hospitals' department are similar to the distribution of them among different specialties.
- Half of MOH hospitals' physicians have private clinics which are mainly located in Gaza City and just below one third works at NGOs.

- The average number of patients that MOH hospitals' physician treats per day is 21.8 patients, but few physicians treat a higher or lower numbers. Prescriptions results are similar.

5.2.2 Conclusions Related to the Exposure and Attitude

5.2.2.1 Exposure of Physicians to Marketing practices

- MOH hospitals' physicians are highly exposed to the marketing practices of the pharmaceutical companies in the Gaza Strip, as 95.1% of them are exposed to 10 marketing practices used by pharmaceutical companies in the Gaza Strip.
- Among the commonly used marketing practices are PCRs' visiting and detailing (87.2%), free medical samples distributing (86.2%), non-promotional events sponsoring (80.6%), promotional events organizing (77.6%) and promotional printed materials distributing (72.6%).
- Gifts giving are the only marketing practice which may be considered as moderately used, as 38.8% of physicians are exposed to.
- Among the less commonly or rarely used marketing practices are foreign conference travel sponsoring (18.4%), DTC advertising (16.4%), scientific studies funding (14.5%), and honoraria paying (4.6%).
- Pharmaceutical marketing practices are driven by both local and foreign companies, with some discrepancies in the types of marketing practices adopted by each one.

5.2.2.2 Attitude of Physicians toward Marketing Practices

- MOH hospitals' physicians have positive attitude toward the marketing practices in general, in other word they have positive overall attitude.
- MOH hospitals' physicians have positive attitudes toward eight marketing practices which are ranked as the following non-promotional events sponsoring, foreign conferences travel sponsoring, promotional events organizing, scientific studies funding, PCRs visiting and detailing, promotional printed materials distributing, free medical samples distributing and gifts giving.
- MOH hospitals' physicians have neutral/do not know attitudes toward DTC advertising and have negative attitude toward honoraria paying.
- MOH hospitals' physicians have positive attitude toward the information provided by pharmaceutical companies through marketing practices, and they find it is important and credible.
- Local and foreign pharmaceutical companies are the most preferred companies by MOH hospitals' physicians regarding their marketing practices with discrepancies in the types of the preferred marketing practices for each companies' types.

5.2.3 Conclusion Related to the Willingness, Perception and Preparedness

- MOH Hospitals' physicians are willing to participate in the marketing practices of pharmaceutical companies in general. They are willing to participate in seven types marketing practice of pharmaceutical companies, but they have neutral/do not know willing to receive gifts and honoraria, and they are unwilling to participate in DTC advertising.
- MOH hospitals' physicians perceive that the marketing practices influence their prescribing behaviour. Meanwhile, they perceive that other physicians are more influenced by these marketing practices.
- MOH hospitals' physicians are well prepared to the regulation of the marketing practices in general. Meanwhile, they are against some regulations as the prohibition of the entrance of PCRs' to MOH hospitals and the prohibition of PCRs from organizing presentations inside MOH hospitals. Also, they see that it is necessary to encourage pharmaceutical companies to support important conferences.

5.2.4 Conclusions Related to the Differences in Exposure and Attitudes

5.2.4.1 Differences in Exposure due to Physicians' Characteristics

- There are statistically significant differences among MOH hospitals' physicians in their exposure due to some physicians' characteristics including average monthly income, educational degree, job rank, specialty, participating in committees, hospital, department, having a private clinic, average number of patients treated by physicians per day and average number of prescriptions prescribed by physicians per day.

5.2.4.2 Differences in Attitudes due to Physicians' Characteristics

- There are statistically significant differences among MOH hospitals' physicians in their attitudes due to some physicians' characteristics including specialty, hospital, department and location of the private clinic.

5.2.5 Conclusions Related to the Correlations of Attitude with Exposure, Willingness, Perception and Preparedness

5.2.5.1 Correlation between Attitude and Exposure

- MOH hospitals' physician's attitude toward the marketing practices is significantly, positively and weakly correlated with their exposure to the marketing practices. This means that there are other factors may influence the attitude of physicians beside the exposure to the marketing practices.

5.2.5.2 Correlations between Attitude and Willingness, Perception and Preparedness

- MOH hospitals' attitude is significantly, positively and strongly correlated with their willingness to the participating in the marketing practices.
- MOH hospitals' attitude is not significantly correlated with their perception about the influence of the marketing practices on their prescribing behaviour.
- MOH hospitals' attitude is significantly, negatively and weakly correlated with their preparedness to the regulation of marketing practices.

5.3 Study Recommendations

In this section, the researcher proposes the recommendations of the study through the following three subsections. The first is *specific recommendations* form study results, the second is *general recommendations* for policy makers and the third is a *proposed framework* to govern the interaction between physicians and pharmaceutical companies including the roles of the main players in pharmaceutical marketing.

5.3.1Specific Recommendations

5.3.1.1 Specific Recommendations Related to Physicians' Characteristics

- MOH needs to assess some indicators about their hospitals' physicians as gender distribution, age distribution, average monthly income, income satisfaction and experience years.
- MOH in coordination with Palestine Medical Council has to reevaluate the physicians' educational degrees, specialties, job rank, holding a managerial position, and participating in committees to set clear criteria to each one.
- MOH has to take corrective actions regarding workload distribution among hospitals' physicians.
- Involvement of half of MOH hospitals' physicians in private work and one third of them in NGOs work creates a clear conflict of interest. Policy makers have to evaluate such situation in comprehensive manner.

5.3.1.2 Specific Recommendations Related to Exposure and Attitude

- High exposure of MOH hospitals' physicians with positive attitude toward the marketing practices may create malpractices from pharmaceutical companies and conflict of interest among physicians. Therefore, a clear, effective formal regulations and ethical codes have to be developed and implemented to govern this interaction.
- The promotional printed materials still have a space among the marketing practices used by the pharmaceutical companies in the Gaza Strip. At the same time, MOH hospitals' physicians believe in the importance and credibility of information

provided through. Therefore, there is a need to establish clear mechanisms by MOH for promotional printed materials.

- High free medical samples distributing with the positive attitude of MOH hospitals' physicians toward, in the absence of effective regulations and monitoring procedures for its distributing, makes this urgent issue for the policy makers to take corrective actions that control free medical samples distributing and prevent diversion.
- The gifts, which create conflict of interest among physician, are less commonly used as a marketing practice by the pharmaceutical companies in the Gaza Strip, the least practice that MOH hospitals' physicians have positive attitude toward, and have neutral willing to participate in. Actions are needed from the policy makers to ban all types of gifts giving from pharmaceutical companies to physicians or at least limit their distributions on branded trivial gifts-under specific monetary value- only.
- The sponsoring of educational events is a good contribution form pharmaceutical companies in the Gaza Strip, but more efforts are needed to coordinate these lectures in comprehensive CME programs among MOH hospitals. At the same time a distinction between promotional and non-promotional events have to be clearly announced.
- Foreign conferences travel sponsoring, scientific studies funding and honoraria paying are uncommonly used as marketing practices by pharmaceutical companies in the Gaza Strip, and it seems that they exclusively use them for key opinion leaders. The policy makers have to encourage pharmaceutical companies to use such practices to improve healthcare practice and to involve more practicing physicians with proper disclosure procedures.
- DTC advertising which has advantage and disadvantage on healthcare can be utilized more by pharmaceutical companies to increase awareness of public about certain diseases, under control of MOH. Limit this practice on OTC drugs or extend it to POMs needed a clear decision from the policy makers.
- The positive attitude of MOH hospitals' physicians toward the importance and credibility of information provided by pharmaceutical companies through marketing practices put high responsibility on pharmaceutical companies to provide fair and accurate information and urge MOH policy makers to take interventional actions to obligate pharmaceutical companies to comply with specific procedures that insure the objectivity of this information.
- The presence of discrepancies among foreign and local pharmaceutical companies in the marketing practices they adopted and physicians' preference to, underscore the need for more searching to find the significance of these differences and need to carefully evaluate such differences by the policy makers, to prevent malpractices and encourage good practices.

5.3.1.3 Specific Recommendations Related to Willingness, Perception and Preparedness

- This willingness of MOH hospitals' physicians to the participating in the marketing practice means that they are engaged and will be engaged more in the marketing practices in the future, and this makes them more vulnerable to the influence of these practices on their prescribing behaviour. Thus, the establishing of clear, effective formal regulations and ethical codes to govern the interaction is an urgent and essential area to focus by the policy makers.
- The acknowledging and admitting of MOH hospitals to the influence of the marketing practices make the situation critical on the practicing of medicine; this requires MOH policy makers to promptly take the corrective actions which have to include both training to increase their awareness about such interaction and formal regulations and ethical codes to govern the interaction.
- The preparedness of MOH hospitals' physicians to the regulation of the marketing practices in general makes the implementation of the formal regulations and ethical codes will be easy, because physicians are encouraged to such guidelines and these procedures. However, their disagreement on some proposed rules makes their participation in preparing of these regulations and codes essential for the successful implementation.

5.3.1.4 Specific Recommendations Related to the Differences in Exposure and Attitudes

- The presence of significant differences among MOH hospitals' physicians in their exposure and attitudes due to some physicians' characteristics underscores the need to carefully consider the implications of such differences by more regulations and searching.
- The presence of differences in the exposure of MOH hospitals' physicians due to some physicians' characteristics is a normal situation which driven by the targeting of the pharmaceutical companies to some key groups of physicians. Hence, the policy makers have to set more restrictive guidelines for such physicians' groups.
- The presence of differences in the exposure of physicians among MOH hospitals raises the need for deep studies to find out the cause of such differences and to take the corrective actions.
- The presence of differences in the attitudes of MOH hospitals' physicians due to some physicians' characteristics such as specialty, hospital and department is a critical situation need more searching, and more attention from the policy makers.
- The presence of differences in the attitudes of MOH hospitals' physicians due to the location of the private clinic is unexpected finding and needs more searching to find out the underlying causes and take the corrective actions.

5.3.1.5 Specific Recommendations Related to the correlation of Attitude with Exposure, Willingness, Perception and Preparedness

- The existence of significant, positive and weak correlation between MOH hospitals' physician's attitudes toward the marketing practices and their exposure to the marketing practices indicates that there are other factors may influence the attitude of physicians beside the exposure to the marketing practices. More studies are needed to explain the effects of these factors and may be other external factors on the attitude of physicians
- The existence of strong positive correlation between the willingness and attitude reveals the absence of attitude-behaviour gaps and cognitive dissonance situation among respondents, which is good for healthcare system; needs to preserve.
- The absence of the correlation between the attitude of MOH hospitals'' and their perception about the influence of the marketing practices on their prescribing, is very critical for the prescribing behaviour and healthcare system. Therefore, aggressive interventional approaches are needed to govern their interaction with pharmaceutical companies.
- Taken in consideration that the correlation is weak, the presence of negative correlation between MOH hospitals' physicians and their preparedness to the regulation of the marketing is important for each decision maker in MOH hospitals; as the attitude can be influenced and changed by preparing physicians to the interaction with pharmaceutical companies. Training courses, formal regulations and ethical codes have a big role in such area.

5.3.2 General Recommendations for the Policy Makers

The following are general recommendations for the policy makers of pharmaceutical marketing, (Recommendations for policy makers in Arabic are in available in Appendix 13):

- Encouraging collaboration between physicians and pharmaceutical companies on the basis of the improvement of medicine practice to ensure patients' benefit.
- Establishing formal regulations and ethical codes to govern the interaction between physicians and pharmaceutical companies, (Recommendation per each marketing practice is available in appendix 14).
- Printing and disseminating these formal regulations and ethical codes among all physicians and pharmaceutical companies to ensure good implementation.
- Arranging training courses and didactic seminars on these formal regulations and ethical codes to encourage the compliance of physicians and pharmaceutical

companies, and to strengthen the concept of collaboration on basis of patients' benefit.

- Incorporating educational materials about the interaction between physicians and pharmaceutical companies in the curriculum of medicine and pharmacy faculties, including hot topic likes process of drug development, clinical trials, impact of marketing practices on prescribing behaviour, drug pricing, evaluation of industry information, evaluation of literature…etc.
- Continuous evaluation and monitoring of physicians' and pharmaceutical companies' performance regarding the marketing practices and their compliance with these regulations and codes, providing physicians and pharmaceutical companies with effective feedback about their performance, and take the legal and disciplinary corrective actions as needed.
- Updating these legal regulations and ethical codes every 2-3 years based on the changing in the pharmaceutical marketing and the relationship between physicians and pharmaceutical companies.
- Encouraging the communication between the policy makers, physicians and pharmaceutical companies to establish mutually beneficial relationship between physicians and pharmaceutical companies based on patients' benefit.
- Conducting similar studies including all healthcare providers in Palestine, as MOH PHC, UNRWA, MMS, NGOs, private sectors to reach to national data.

5.3.3 Proposed Framework

In order to make efficient use of the results and the recommendation of this study, the researcher proposes a framework to govern the interaction between MOH hospitals' physicians and pharmaceutical companies.

Framework is a hypothetical description of a complex entity or process; it represents a set of assumptions, concepts, values, and practices that constitutes a way of viewing reality (Oxford Dictionary, 2007).

Figure (5.3-1): Proposed Framework to Govern the Interaction between Physicians and Pharmaceutical companies illustrates this framework.

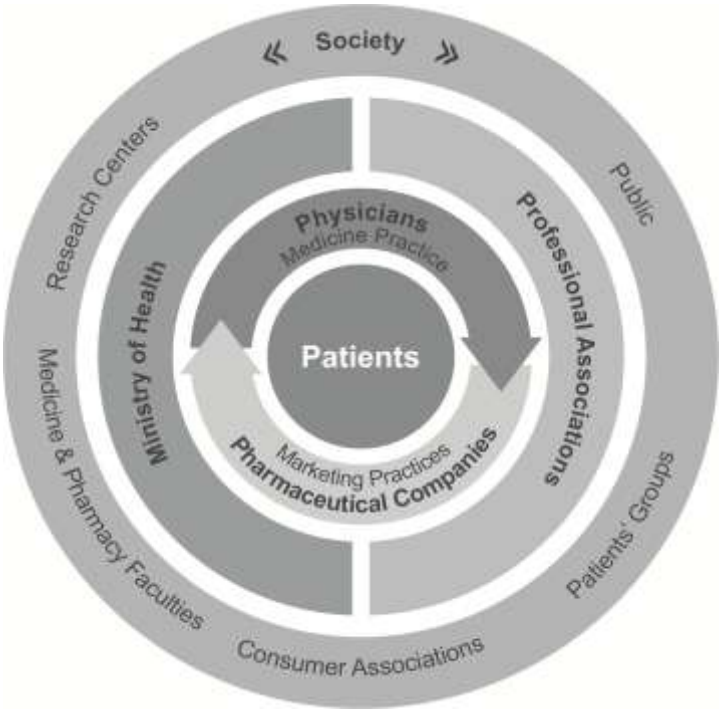

Figure (5.3-1): The Proposed Framework to Govern the Interaction between Physicians and Pharmaceutical Companies

This framework has been developed by the researcher according to literature review, researcher's current experience in the marketing practices, and the study results. This framework is applicable to be implemented among any healthcare practice settings.

The framework proposes the following assumptions, concepts and values:

- The current interaction between physicians and pharmaceutical companies is dysfunctional, and the current formal regulations and ethical codes are inadequate and ineffective. The challenge is to transform this interaction into one that based on integrity and transparency.
- The "Patient" at the heart of this framework, as the goal of this framework is patients' benefit which includes patients' health, happiness, privacy and dignity...etc.
- In real life of modern world, neither clinical medicine (physician) nor industry (pharmaceutical companies) can survive independently and the complete separation between them is impossible, impractical and unwise.
- Conflict of interest may rise when physicians and pharmaceutical companies interact. Proper balance in such interaction eliminates the negative outcomes, allows physicians

and pharmaceutical companies to collaborate and provides patients with best healthcare services including effective and safe medications,

- Both physicians and pharmaceutical companies should have active roles with clear goals of patients' benefit.
- Physicians' goal should be the improving of their medicine practice to provide patients with best possible healthcare through treating, researching and teaching.
- Pharmaceutical companies' goal should be the improving of physicians' practice of medicine through fair, accurate and objective marketing practices.
- MOH has to take an active role in establishing formal regulations that control and monitor the interaction between physicians and pharmaceutical companies.
- Professional associations have to take an active role in establishing ethical codes to govern and monitor the interaction between physicians and pharmaceutical companies.
- Society should always encourage professionalism from physicians and transparency from pharmaceutical companies.

To accomplish this goal of patients' benefit, the researcher proposes the following roles and practices for the main players:

5.3.2.1 Role of Physicians

- Should hold to high standard of ethics and professionalism, act with honesty and responsibility in all forms of interaction with pharmaceutical companies to achieve patients' benefit.
- Should steer and take the control of this interaction to improve his/her medicine practice to maximize the benefits of his/her patients and to minimize the negative impact of the marketing practices on his/her practice.
- Should only accept the marketing practices and materials from pharmaceutical companies that primarily entail a benefit to patients, and should not be of substantial value.
- Should be very cautious about how the marketing practices may influence his/her prescribing behaviour and drug choice, and therefore, should not solicit or accept any practice or material from pharmaceutical companies that might influence or appear to influence his/her objectivity, independence or fairness of clinical and professional judgment.
- Should be aware about the situations of conflict of interest and applying the appropriate ethical recommendations.
- Should critically judge the credibility of information provided from pharmaceutical companies through the marketing practices.
- Should disclose any financial interest with pharmaceutical companies.

5.3.2.2 Role of Pharmaceutical Companies

- Should commit to the improvement of medicine practice among physicians to accomplish patients' benefit.

- Should establish appropriate procedures to ensure full compliance with national and international regulations.
- Should develop codes of conduct that obligate their associates to commit with high standard of ethics.
- Should limit their PCRs' contact with physicians to the clinical practice which aims to improve physicians' medicine practice for the patients' benefit.
- Should provide unrestricted educational grants for hospitals and professional associations, with clear transparency in allocation of these funds.
- Should not replace medical education by promotional events, and have to clearly distinguish between promotional and non-promotional events.
- Should promote printed materials that are accurate, fair, objective, up-to-date, supported with valid scientific evidence, and presented in a way that conform to legal requirements.
- Should disclose any payment for physicians for speaking, consulting, patients recruitments, conferences travel…etc.
- Should support only programs and events that aim at educating physicians to improve their medicine practice.
- Should limit all the marketing practices to the registered drugs within its approved indications only, and no off label indications should be promoted.

5.3.2.3 Roles of MOH

- Should establish formal regulations to govern the interaction between physicians and pharmaceutical companies, with clear rules about what are allowed and not allowed in such interaction for each type of the marketing practices.
- Should conduct training programs for MOH physicians to educate them how to utilize such interaction for patients' benefit and to address the potential concerns about the interaction between physicians and pharmaceutical companies.
- Should monitor the practices of physicians and pharmaceutical companies, and take the legal corrective actions when needed.
- Should obligate pharmaceutical companies and physicians to openly disclose the fees paid through the marketing practices like foreign conferences travel sponsoring, scientific studies funding and honoraria paying.

5.3.2.4 Role of Professional Associations

- Should develop ethical codes that govern the interaction between physicians and pharmaceutical companies, with clear rules about what are allowed and not allowed and provide a mechanism for dealing with breaches of the code.
- Should arrange didactic seminar on these ethical codes to encourage physicians' implementation and compliance with these ethical codes.
- Should incorporate topics about the interaction between physicians and pharmaceutical companies in their meetings and conferences including hot topic likes process of drug

development, clinical trials, impact of marketing practices on prescribing behaviour, drug pricing, evaluation of industry information, evaluation of literature…etc.

- Should provide modeling and consultation of how to handle the interaction between physicians and pharmaceutical companies especially in conflicting situations.
- Should evaluate any sponsoring of educational events by the pharmaceutical companies for the topics, contents of education, attendants and the qualification, conflict of interest and independency of speakers.
- Should independently monitor the practices of physicians and pharmaceutical companies, and take the disciplinary corrective action when needed.
- Should reward the physicians and pharmaceutical companies who show high ethical commitment, responsibility and professionalism.

5.3.2.5 Role of Society

- Public, in general, should expect from and encourage all the players of pharmaceutical marketing to commit to high standard of ethics as professionalism and transparency.
- Patients' groups should propose and define the boundaries in the relation between physicians and pharmaceutical companies.
- Consumers' associations should educate the patients about such relation and help them to propose and define the boundaries in the relation between physicians and pharmaceutical companies.
- Medicine and pharmacy faculty should include educational materials about interaction between physicians and pharmaceutical companies in their faculties' curriculum.
- Research centers and researchers should conduct research to explore the relationship between physicians and pharmaceutical companies more and evaluate the marketing practices of pharmaceutical companies.

5.4 Future Research

The exposure and attitudes of physicians toward the marketing practice are a hot topic in developed countries while, it represents a new field which is not well researched in developing countries especially in the Arab countries. Thus, the door is still open for more researching.

Here, are some of the proposed studies:

- Exposure and attitudes of physicians toward the marketing practices among physicians in Palestine.
- Evaluating the interaction between physicians and pharmaceutical companies by qualitative research.
- Exposure and attitudes of physicians due to pharmaceutical companies' types.
- Impact of the marketing practices of pharmaceutical companies on prescribing behaviours of physicians.

- Impacts of formal regulations and ethical codes on the relationship between physicians and pharmaceutical companies.
- Role of pharmaceutical companies in medical education.
- The relation between attitude and prescribing behaviour.

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Appendixes

Appendix (1): Sample Size Determination

Appendix (2): Ethical Approval of Helsinki Committee – Palestinian Heath Research Council

المجلس الفلسطيني للبحث الصحي

Palestinian Health Research Council

تعزيز النظام الصحي الفلسطيني من خلال مأسسة استخدام المعلومات البحثية في صنع القرار

Developing the Palestinian health system through institutionalizing the use of information in decision making

Helsinki Committee
For Ethical Approval

Date: 19\12\2013 **Number:** PHRC/HC/67 /13

Name: Hazem Ammar الاسم: حازم عمار

We would like to inform you that the committee had discussed the proposal of your study about: نفيدكم علماً بأن اللجنة قد ناقشت مقترح دراستكم حول:-

"The Exposures & Attitudes of physicians toward Marketing practices of pharmaceutical companies in Gaza Strip"

The committee has decided to approve the above mentioned research. Approval number PHRC/HC/67/13 in its meeting on 19/12/2013 و قد قررت الموافقة على البحث المذكور عاليه بالرقم والتاريخ المذكوران عاليه

Signature

Member Member

Chairman

Genral Conditions:-

1. Valid for 2 years from the date of approval.
2. It is necessary to notify the committee of any change in the approved study protocol.
3. The committee appreciates receiving a copy of your final research when completed.

Specific Conditions:-

The subject was approved following the World Medical Association Declaration of Helsinki-Ethical principles for medical research involving human subjects, adopted by the 18th World Medical Association General Assembly, Helsinki, Finland, June 1964 and amended by the 59th WMA General Assembly, Seoul, Korea, October 2008.

E-Mail:pal.phrc@gmail.com

Gaza - Palestine غزة - فلسطين
شارع النصر - مفترق العيون

Appendix (3): Administrative Approval of General Directorate of Human Resource Development - MOH

The Palestinian National Authority
Ministry of Health
Directorate General of Human Resources Development

السلطة الوطنية الفلسطينية
وزارة الصحة
الإدارة العامة لتنمية القوى البشرية

التاريخ: 2013/12/05م
الرقم: .....

الأخ / د. يوسف أبو الريش — مدير عام المستشفيات — المحترم،،،
الأخ / د. فؤاد العيسوي — مدير عام الرعاية الأولية — المحترم،،،
الأخ / د. ماجد حمادة — مدير وحدة الإجازة و التراخيص — المحترم،،،

السلام عليكم ورحمة الله وبركاته،،،

الموضوع/ تسهيل مهمة باحث

بخصوص الموضوع أعلاه، يرجى تسهيل مهمة الباحث / حازم غالب عمار الملتحق ببرنامج ماجستير إدارة الأعمال- كلية التجارة- الجامعة الإسلامية غزة، في إجراء بحث بعنوان :-

"The Exposure & Attitude of Physicians toward Marketing Practice of Pharmaceutical Companies in Gaza Strip"

حيث الباحث بحاجة لإحصائيات وبيانات الأطباء وتعبئة استبانه من عدد من الأطباء العاملين في مستشفيات ومراكز الرعاية الأولية في قطاع غزة، بما لا يتعارض مع مصلحة العمل وضمن أخلاقيات البحث العلمي، و دون تحمل الوزارة أي أعباء أو مسئولية.

وتفضلوا بقبول التحية و التقدير،،،

د. ناصر رأفت أبو شعبان
مدير عام تنمية القوى البشرية

صورة/
- الإدارة العامة للرقابة الداخلية
- صاحب/ـة العلاقة

Gaza Tel / 08-2827298 Fax / 08-2868109 Email / hrd@moh.gov.ps

Appendix (4): Administrative Approval of General Directorate of Hospitals - MOH

The Palestinian National Authority
Ministry of Health
Directorate General of Human Resources Development

السلطة الوطنية الفلسطينية
وزارة الصحة
الإدارة العامة لتنمية القوى البشرية

الرقم .....
التاريخ: 2013/12/05م
125

الأخ / د. يوسف أبو الريش — مدير عام المستشفيات — المحترم،،،
الأخ / د. فؤاد العيسوي — مدير عام الرعاية الأولية — المحترم،،،
الأخ / د. ماجد حمادة — مدير وحدة الإجازة و التراخيص — المحترم،،،

Nabila
2657
16-12-2013

السلام عليكم ورحمة الله وبركاته،،،

الموضوع/ تسهيل مهمة باحث

بخصوص الموضوع أعلاه، يرجى تسهيل مهمة الباحث / حازم غالب عمار الملتحق ببرنامج ماجستير إدارة الأعمال- كلية التجارة- الجامعة الإسلامية غزة في إجراء بحث بعنوان :-

"The Exposure & Attitude of Physicians toward Marketing Practice of Pharmaceutical Companies in Gaza Strip"

حيث الباحث بحاجة لإحصائيات وبيانات الأطباء وتعبئة استبانه من عدد من الأطباء العاملين في مستشفيات ومراكز الرعاية الأولية في قطاع غزة، بما لا يتعارض مع مصلحة العمل وضمن أخلاقيات البحث العلمي، و دون تحمل الوزارة أي أعباء أو مسئولية.

وتفضلوا بقبول التحية والتقدير،،،

د. ناصر رأفت أبو شعبان
مدير عام تنمية القوى البشرية

الإدارة العامة للمستشفيات
وارد
رقم: ٢٨٧٨٧
التاريخ: ١٢/١٠

وزارة الصحة
تنمية القوى البشرية
صادر ١٢/١٩٦٦
التاريخ ١٢/١٢/٢٠١٣

صورة/
- الإدارة العامة للرقابة الداخلية
- صاحب/ـة العلاقة

الإدارة العامة للمستشفيات
صادر
رقم: ٢٠٦٥٦٩
التاريخ: ١٢/١٢/١٤

Gaza Tel / 08-2868108 Fax / 08-2868109 Email / hrd@moh.gov.ps

Appendix (5): Administrative Approval of General Directorate of Financial and Managerial Affairs – MOH

The Palestinian National Authority
Ministry of Health
Directorate General of Human Resources Development

السلطة الوطنية الفلسطينية
وزارة الصحة
الإدارة العامة لتنمية القوى البشرية

التاريخ 2013/12/18م

الرقم .....

الأخ / أ. موسى السمك المحترم...
مدير عام الشئون الإدارية و المالية

السلام عليكم ورحمة الله وبركاته...

الموضوع/ تسهيل مهمة باحث

بخصوص الموضوع أعلاه، يرجى تسهيل مهمة الباحث / حازم طالب عساف
الملتحق ببرنامج ماجستير إدارة الأعمال- كلية التجارة- الجامعة الإسلامية غزة
في إجراء بحث بعنوان :-

"The Exposure & Attitude of Physicians toward Marketing Practice of Pharmaceutical Companies in Gaza Strip"

حيث الباحث بحاجة لإحصائيات وتوزيعات وبيانات الأطباء العاملين في مرافق الوزارة المختلفة لتمكنه استبانته من عدد من منهم، بما لا يتعارض مع مصلحة العمل وضمن أخلاقيات البحث العلمي، و دون تحميل الوزارة أي أعباء أو مسئولية.

وتفضلوا بقبول التحية والتقدير...

د. نائل رأفت أبو شعبان
مدير عام تنمية القوى البشرية

الإدارة العامة للرقابة الداخلية
- سامحناية العلاقة

وزارة الصحة
الإدارة العامة للشئون الإدارية والمالية
صادر 4607
2013-12-22

Appendix (6): Explanatory Letter - English Version

Islamic University – Gaza
High Study Deanery Education
Faculty of Commerce
Business administration Department

Questionnaire explanatory letter

Research Title: Exposure and Attitude of MOH Hospitals' Physicians toward Marketing Practices of Pharmaceutical Companies in the Gaza Strip

Dear Dr. :

Hello, my name is Hazem Ammar. I am MBA (Master of Business and Administration) student at Islamic University – Gaza - Palestine. I am conducting this research as a part of my study at the university.

The study aims to explore the exposure and attitude of MOH hospitals' physicians toward marketing practices of pharmaceutical companies in the Gaza Strip.

The study will help all the player in the field of pharmaceutical marketing including physicians, patients, MOH, and pharmaceutical companies to establish mutual beneficial relationship does not undermine patients and society interest.

I highly appreciate your participation in this study. The questionnaire takes 20-25 minutes, if you feel tired or uncomfortable, please ask to stop the interview.

Participation in this study is voluntary and you have the right to withdraw at any time. Confidentiality will be provided, no need to write down your name. Please, answer the questions as you feel and practice in the reality.

Thank you very much in advance for your collaboration.

Researcher : Hazem Ammar

Supervisor: Dr Rushdy Wady

Appendix (7): Explanatory Letter -Arabic Version

الجامعة الإسلامية – غزة
عمادة الدراسات العليا
كلية التجارة
قسم إدارة الاعمال

التاريخ : 20/04/2014

الموضوع/استبانة دراسة

"تعرض أطباء المستشفيات بوزارة الصحة واتجاهاتهم نحو الممارسات التسويقية لشركات الأدوية في قطاع غزة"

الدكتور/ة المحترم/ة:

تحية طيبة وبعد:

يجري الباحث دراسة حول تعرض واتجاه أطباء المستشفيات بوزارة الصحة نحو الممارسات التسويقية لشركات الأدوية في قطاع غزة، وذلك استكمالا لمتطلبات الحصول على درجة الماجستير في إدارة الاعمال بالجامعة الإسلامية بغزة.

و سوف يتم دراسة هذا الموضوع من جانبين :

- تعرض الأطباء بمستشفيات وزارة الصحة للممارسات التسويقية لشركات الأدوية.
- اتجاه الأطباء بمستشفيات وزارة الصحة نحو الممارسات التسويقية لشركات الأدوية.

حيث أن نتائج هذه الدراسة سوف تؤدي إلى تحسين العلاقة بين الأطباء وشركات الأدوية بما يخدم مصلحة الطبيب و المريض و وزارة الصحة وشركات الأدوية ومن ثم المجتمع ككل.

هناك مجموعة من الأسئلة يرجى تسجيل الإجابة الأقرب لك ولممارساتك الواقعية والتي تعكس وجهة نظرك بموضوعية، مع الملاحظة انه لا يوجد إجابات خاطئة وإجابات صحيحة، مع الحرص على عدم ترك أي سؤال دون إجابة لأن ذلك يؤدي إلى عدم الاستفادة من الاستبانة بكاملها.

لذا اتمنى من سيادتكم تخصيص بعض الوقت الذي لن يتجاوز 20 -25 دقيقة لتعبئة الاستبانة المرفقة. علما بأن المشاركة في هذا البحث تطوعية ولك الحق في الانسحاب في أي وقت تشاء، مع التأكيد على أن إجابتكم سوف تعامل بسرية تامة حيث أن نتائج الاستبانة ستجدول وتعرض ضمن بيانات مجمعة و لن يتم الاشارة لأي حالة بعينها، فلا حاجة لكتابة اسمك على الاستبيان.

ملاحظة: لا تدخل شركات حليب الأطفال والتجهيزات الطبية ضمن شركات الأدوية المستهدفة في هذه الدراسة.

اقدر عالياً مشاركتك بالبحث، وتفضلوا بقبول جزيل الشكر

الباحث/ حازم عمار

المشرف/ د. رشدي وادي

Appendix (8): Study Questionnaire- English Version

1. Section One: Physician's Characteristics

Please fill the needed information or tick (√) in the box that reflects you best answers:

1.1 Personal Characteristics									
1	Gender		Female			Male			
2	Age								
3	Average Monthly Income								
4	Income Satisfaction		Very Satisfied		Satisfied		Dissatisfied		Very Dissatisfied

1.2 Professional Characteristics										
5	Graduation Country of Bachelor's									
6	Years of Practicing Medicine in Gaza									
7	Educational Degree (Highest)		Bachelors		High Diploma		Master		Doctoral	Board
8	Job Rank		Resident		Specialist		Consultant			
9	Specialty									
10	Do you currently hold a managerial position?						Yes		No	
11	Do you currently participate in Scientific/Drugs/Referral committee?						Yes		No	

1.3 Practice Setting Characteristics										
12	Hospital you work at									
13	Department you work at									
14	Do you have a private clinic?		Yes		No					
15	Location of the private clinic		North Gaza		Gaza City		Mid Zone		Khanyunis	Rafah
16	Do you work at Non-Governmental Organization (NGO)								Yes	No
17	Average number of patients you treat per day in all your working places									
18	Average number of prescriptions you prescribe per day in all your working places									

Section Two: Exposure to marketing practices of pharmaceutical companies

Pharmaceutical companies (PCs) employ number of marketing practices that target physicians and their patients, which includes pharmaceutical company representatives' (PCR) visiting & detailing, promotional printed materials distributing, free medical samples distributing, gifts giving, non-promotional events sponsoring such as local scientific conferences and continuing medical education lectures (CME), promotional events organizing such as drugs' presentations, launches and symposia, foreign conferences travel sponsoring , scientific studies funding such as clinical and post marketing surveillance studies and honoraria paying for consulting or speaking or other provided services. In addition to these approaches which directly target healthcare professionals, there is a different approach that directly targeting patients by direct-to-consumer (DTC) advertising thought media. **Please fill the needed information that best reflects your actual exposure to and participation in these marketing practices of PCs in the Gaza Strip. If you do not expose to or participate in one of these practices, please put (0) or leave the place empty.**

Kindly note that infant milk formulas, cereals and medical suppliers companies are not included in this study.

	2.1 Exposure to marketing practices of pharmaceutical companies	No.
19	Number of PCs' representatives visit you per month	
20	Total sum of visits of PCs' representatives you have per month	
21	Number of times do you receive free medical samples from PCs' per month	
22	Total sum of free medical samples do you receive from all PCs per month	
23	Number of times do you receive promotional printed materials from PCs' per year	
24	Number of times do you receive gifts from PCs per year	
25	Number of times do you attend local scientific conferences or CME lectures sponsored by PCs per year	
26	Number of times do you attend meeting or lectures organized by PCs per year	
27	Number of times did you ever attend foreign conference sponsored by PCs	
28	Number of time did you participate in scientific study funded by PCs	
29	Number of times did you receive honorarium from PCs for speaking or consulting.	
30	Number of times do a patient encounter you by direct to consumers (patients) advertising of PCs per year	

Please tick (√) in front of every item that reflects actual practice of your exposure and participation in marketing practices by companies types (Please select one choice only).

	2.2 Exposure to the marketing practices by companies' types	No one	Drug wholesaler	Egyptian	Israeli	Local	Foreign
31	Most of PCs representatives visit you are from						
32	Most of promotional printed materials you receive are from						
33	Most of free medical samples you receive are from						
34	Most of gifts you received are from						
35	Most of local scientific conferences and CME lectures you attend are sponsored by						
36	Most of meeting and lectures of PCs you attend are organized by						
37	Most of foreign conferences you attended were sponsored by						
38	Most of your participations in PCs' scientific studies were funded by						
39	Most of honoraria you received were from						
40	Most of direct to consumer (Patients) advertising of PCs you encountered are from						

Section Three: Attitudes toward marketing practices of PCs

Please tick (√) in front of every item that reflects your opinion toward marketing practices of PCs:

	3.1 Attitudes toward PCs' Representatives' Visiting and Detailing	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
41	PCs' representatives' visits are important for physicians.					
42	PCs' representatives' visits achieve mutual interest.					
43	PCs' representative detailing is an important source of information about drugs.					
44	PCs' representative detailing includes credible information.					
	3.2 Attitude toward Promotional Printed Materials Distributing					
45	Promotional printed materials of PCs have scientific value.					
46	Promotional printed materials of PCs include credible information.					
47	Promotional printed materials of PCs include balanced information about competitors.					
48	Promotional printed materials of PCs include information about drug's warnings and side effect.					
	3.3 Attitude toward Free Medical Samples Distributing					
49	Free medical samples broaden physicians' experience about drug.					
50	Free medical samples encourage physicians to prescribe more effective drugs.					
51	Free medical samples match with patient's interest.					
52	Prohibition of Free medical samples distributing improve physicians' professionalism.					
	3.4 Attitude toward gift giving					
53	It is acceptable to receive gifts from PCs.					
54	Gifts given from PCs improve physicians' relationship with PCs.					
55	Gifts given from PCs are ethical.					
56	Gifts given from PCs create conflict of interest for physician.					
	3.5 Attitude toward local scientific conferences and continuing medical education lectures sponsoring (Non-Promotional Events)					
57	It is acceptable to attend local scientific conferences and CME lectures sponsored by PCs.					
58	Physicians appreciate the sponsoring of PCs to local scientific conferences and CME lectures.					
59	Sponsoring of PCs to local scientific conferences and CME lectures undermine the objectivity of such events.					
60	The hospitality accompanying local scientific conferences and CME lectures encourage physicians' attendance.					
	3.6 Attitude toward meetings and lectures organizing (Promotional Events)					
61	It is acceptable to attend meetings and lectures organized by PCs.					
62	The meetings and lectures of PCs have scientific value.					
63	The meetings and lectures of PCs are credible.					
64	The meetings and lectures of PCs include balanced information about benefits and risk of drug.					
	3.7 Attitude toward foreign conferences sponsoring					
65	It is acceptable to attend foreign conference sponsored by PCs.					
66	Foreign conferences travels sponsored by PCs have scientific value.					
67	Attending foreign conferences sponsored by PCs undermine physicians' professionalism					
	3.8 Attitude toward scientific studies funding.					
68	It is acceptable to participate in scientific studies funded by PCs.					
69	Scientific studies funded by PCs have scientific value.					
70	Scientific studies funded by PCs adhere with ethics of scientific research.					

3.9 Attitude toward honoraria paying.						
71	It is acceptable for a physician to receive honorarium for a service she/he provided to PC.					
72	It is acceptable for a physician to receive honorarium for a lecture she/he presented for PC.					
73	Receiving honorarium from PC undermine physicians' independence.					
3.10 Attitude toward Direct to Consumer (Patient) advertising						
74	Direct to consumer (patient) advertising of PCs is an acceptable marketing practice.					
75	Direct to consumer (patient) advertising of PCs encourage patients to seek treatment.					
76	Direct to consumer (patient) advertising of PCs has sufficient information on drug properties.					

Please tick (√) in front of every item that reflect your opinion toward marketing practices of PCs by companies' types (Please select one choice)

	3.11 Attitude to marketing practices by companies' types	No one	Drug wholesaler	Egyptian	Israeli	Local	Foreign
77	I prefer the visiting of the PCs' representative of						
78	I prefer the promotional printed materials distributed from						
79	I prefer the free medical samples distributed from						
80	I prefer the gifts given from						
81	I prefer the local scientific conferences and CME sponsored by						
82	I prefer the meeting and lectures organized by						
83	I prefer the foreign conferences travel sponsored by						
84	I prefer the scientific study funded by						
85	I prefer the honoraria for a service paid by						
86	I prefer the direct to consumer (Patient) advertising advertised by						

Section Four: Willingness to the Participation in marketing practices of PCs

Please tick (√) in front of every item that reflects your opinion toward the participation in marketing practices of PCs:

	4.1 Willingness to the Participation in Marketing Practices of PCs	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
87	I'd like to be visited by PCs' representatives.					
88	I'd like to receive promotional printed materials from PCs.					
89	I'd like to receive free medical samples from PCs.					
90	I'd like to receive gifts given from PCs.					
91	I'd like to attend local scientific conferences and CME lectures sponsored by PCs.					
92	I'd like to attend meetings and lectures organized by PCs.					
93	I'd like to attend foreign conferences travel sponsored by PCs.					
94	I'd like to participate in scientific study funded by PCs.					
95	I'd like to receive honoraria paid from PCs in compensation to services I provide.					
96	I 'd like to have direct to consumer (Patients) advertising of PCs.					

Section Five: Perception about the Influence of Marketing Practices

Please tick (√) in front of every item that reflects your opinion toward the participation in marketing practices of PCs:

	5.1 Perception about the Influence of Marketing Practices	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
97	The marketing practices of PCs affect physicians' prescribing behaviour and their drugs choice .					
98	The support received from PC is considered when selecting among alternative drugs.					
99	As the exposure of physicians to marketing practices increases , their prescriptions increase.					
100	As the value of the marketing practices for physicians increases, their prescriptions increase.					
101	Other physicians are under pressure from PCs to prescribe their drugs.					
102	Other physicians are more influenced by marketing practices of PCs.					

Section Six: Preparedness to the Regulation of the Marketing Practices

Please tick (√) in front of every item that reflects your opinion toward the regulation of marketing practices of PCs:

	6.1 Preparedness to the Regulation of Marketing Practices	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
103	It is necessary to implement formal regulations that control the interaction between physicians and PCs.					
104	It is necessary to implement ethical code that govern the interaction between physicians and PCs.					
105	It necessary to arrange training courses for physicians about interaction with PCs.					
106	It necessary to prohibit the entrance of PCs' representatives to MOH hospitals.					
107	It is necessary It necessary to monitor the promotional printed materials of PCs.					
108	It is necessary to distribute reduced packs of free medical samples stamped by " Not for sales".					
109	It is necessary to limit the distributing of free medical samples to patients only.					
110	It necessary to limit the value of gifts given from PCs to a specific value.					
111	It is necessary to encourage PCs to sponsor local scientific conferences and CME lectures					
112	It is necessary to prohibit PCs from organizing presentations inside MOH hospitals.					
113	It is necessary to select physicians for participation in foreign conferences travel of PCs by MOH.					
114	It necessary for a physician to get MOH approval when participate in scientific studies for PCs					
115	It is necessary for a physician to disclose for MOH about the honoraria paid from PCs.					
116	It is necessary to restrict the marketing of prescription only drugs for physicians only.					

Thank you very much.

Appendix (9): Questionnaire - Arabic Version

القسم الأول: خصائص الطبيب

يرجى تعبئة البيانات المطلوبة أو وضع إشارة (√) في المربع الذي يعكس أفضل اجاباتك :

1.1 الخصائص الشخصية												
1	الجنس		انثى		ذكر							
2	العمر											
3	متوسط الدخل الشهري											
4	الرضا عن الدخل		راضي جدا		راضي		غير راضي		غير راضي بتاتا			

1.2 الخصائص المهنية												
5	بلد التخرج للبكالوريوس											
6	سنوات ممارسة الطب في غزة											
7	الدرجة العلمية (آخر مؤهل)		بكالوريوس		دبلوم عالي		ماجستير		دكتوراه		بورد	
8	المستوى المهني		مقيم		أخصائي		استشاري					
9	التخصص											
10	هل تشغل حاليا أي موقع إداري؟				نعم		لا					
11	هل تشارك حاليا في لجنة علمية / أدوية/ تحويلات؟				نعم		لا					

1.3خصائص الممارسة الطبية												
12	المستشفى الذي تعمل به											
13	القسم الذي تعمل به											
14	هل لديك عيادة خاصة؟		نعم		لا							
15	موقع العيادة الخاصة		الشمال		غزة		الوسطى		خانيونس		رفح	
16	هل تعمل بمؤسسة غير حكومية؟		نعم		لا							
17	متوسط عدد المرضى الذين تعالجهم يوميا في جميع أماكن عملك											
18	متوسط عدد الوصفات الطبية التى تكتبها يوميا في جميع أماكن عملك											

القسم الثاني : التعرض للممارسات التسويقية لشركات الادوية

تقوم شركات الأدوية باستخدام العديد من الممارسات التسويقية التي تستهدف بها الأطباء ومرضاهم مثل زيارات و تقديم مندوبي الدعاية وتوزيع المواد المطبوعة و العينات الطبية المجانية و تقديم الهدايا ودعم المؤتمرات العلمية المحلية ومحاضرات التعليم المستمر و تنظيم المحاضرات و اللقاءات و دعم المؤتمرات الخارجية وتمويل الابحاث العلمية و دفع المكافآت المالية مقابل المحاضرات و الاستشارات. بالإضافة الى الاعلان المباشر للجمهور (المرضى). يرجى تعبئة البيانات المطلوبة بالدقة الممكنة بما يعكس الواقع الحقيقي لتعرضك ومشاركتك بهذه الممارسات التسويقية لشركات الأدوية في قطاع غزة، في حالة عدم التعرض وعدم المشاركة بأي نوع من هذه الممارسات يرجى وضع الرقم 0 أو ترك المربع فارغا أمامه.

ملاحظة - لا تدخل شركات حليب الأطفال و التجهيزات الطبية ضمن شركات الأدوية المستهدفة في هذه الدراسة.

	2.1 التعرض للممارسات التسويقية لشركات الأدوية	العدد
19	عدد ممثلي شركات الأدوية الذين يزورنك خلال الشهر.	
20	مجموع الزيارات التي تتلقاها من جميع ممثلي شركات الأدوية خلال الشهر.	
21	عدد المرات التي تتلقى فيها عينات طبية مجانية من شركات الادوية خلال الشهر.	
22	مجموع العينات الطبية المجانية التي تتلقاها من جميع شركات الأدوية خلال الشهر.	
23	عدد المرات التي تتلقى فيها مواد مطبوعة من شركات الأدوية خلال العام.	
24	عدد المرات التي تتلقى فيها هدايا من شركات الأدوية خلال العام.	
25	عدد المرات التي تحضر فيها مؤتمرات أو محاضرات تعليم طبي مستمر مدعومة من شركات الأدوية خلال العام.	
26	عدد المرات التي تحضر فيها لقاءات أو محاضرات تنظمها شركات الأدوية خلال العام.	
27	عدد المرات التي سبق لك أن حضرت فيها مؤتمر خارجي بدعم من شركات الأدوية.	
28	عدد المرات التي سبق لك أن شاركت ببحث علمي ممول من شركات الأدوية.	
29	عدد المرات التي سبق لك أن تلقيت فيها مكافآت مالية من شركات الأدوية مقابل خدمات كالمحاضرات و الاستشارات و غيرها.	
30	عدد المرات التي صادفك فيها مريض بإعلان مباشر للجمهور (للمرضى) من قبل شركات الأدوية خلال العام.	

يرجى وضع إشارة (√) أمام كل بند في المربع الذي يعكس الواقع الحقيقي لتعرضك ومشاركتك بالممارسات التسويقية حسب نوع الشركة :

(برجاء الالتزام بخيار واحد فقط) .

	2.2 التعرض للممارسات التسويقية حسب نوع الشركة	خيار واحد فقط					
		لا أحد	مستودعات الادوية	الشركات المصرية	الشركات الاسرائيلية	الشركات المحلية	الشركات الأجنبية
31	أكثر ممثلي شركات الأدوية الذين يزورونك هم من قبل						
32	أكثر المواد المطبوعة التي تتلقاها تكون من قبل						
33	أكثر العينات الطبية المجانية التي تتلقاها تكون من قبل						
34	أكثر الهدايا التي تتلقاها تكون من قبل						
35	أكثر المؤتمرات العلمية المحلية ومحاضرات التعليم المستمر التى تحضرها تدعم من قبل						
36	أكثر لقاءات و محاضرات الشركات التى تحضرها تكون من قبل						
37	أكثر المؤتمرات الخارجية التى حضرتها كانت بدعم من قبل						
38	أكثر مشاركاتك بأبحاث علمية لشركات الأدوية كانت ممولة من قبل						
39	أكثر المكافآت المالية التى تلقيتها من شركات الأدوية مقابل خدمات قدمتها لهم كانت من قبل						
40	أكثر الإعلانات الموجهه مباشرة للجمهور (المرضى) لشركات الادوية التي تصادفها تكون من قبل						

القسم الثالث : الاتجاهات نحو الممارسات التسويقية لشركات الأدوية

يرجى وضع إشارة (√) أمام كل بند في المربع الذي يعكس بدقة وجهة نظرك نحو الممارسات التسويقية:

	3.1الاتجاهات نحو زيارات و تقديم ممثلي شركات الأدوية	غير موافق بشدة	غير موافق	محايد	موافق	موافق بشدة
41	زيارات ممثلي شركات الأدوية مهمة للأطباء.					
42	زيارات ممثلي شركات الأدوية تحقق المصلحة المتبادلة.					
43	تقديم ممثلي شركات الأدوية مصدر هام للمعلومات عن الأدوية.					
44	تقديم ممثلي شركات الأدوية يتضمن معلومات موثوقة.					
	3.2الاتجاهات نحو توزيع المواد الدعائية المطبوعة	**غير موافق بشدة**	**غير موافق**	**محايد**	**موافق**	**موافق بشدة**
45	المواد المطبوعة لشركات الأدوية ذات قيمة علمية.					
46	المواد المطبوعة لشركات الأدوية تتضمن معلومات موثوقة.					
47	المواد المطبوعة لشركات الأدوية تتضمن معلومات متوازنة حول المنافسين.					
48	المواد المطبوعة لشركات الأدوية تتضمن معلومات عن المحاذير و الأعراض الجانبية للدواء.					
	3.3 الاتجاهات نحو توزيع العينات الطبية المجانية					
49	العينات الطبية المجانية تزيد من خبرة الطبيب بالدواء.					
50	العينات الطبية المجانية تشجع الأطباء على وصف أدوية أكثر فعالية.					
51	العينات الطبية المجانية تتوافق مع مصلحة المرضى.					
52	منع توزيع العينات الطبية المجانية يحسن من مهنية الطبيب.					
	3.4 الاتجاهات نحو تقديم الهدايا					
53	من المقبول تلقي هدايا من شركات الأدوية.					
54	الهدايا المقدمة من شركات الأدوية تحسن علاقة الأطباء بالشركات.					
55	الهدايا المقدمة من شركات الأدوية أخلاقية.					
56	الهدايا المقدمة من شركات الأدوية تخلق تضارب مصالح لدى الطبيب.					
	3.5 الاتجاهات نحو المؤتمرات العلمية المحلية ومحاضرات التعليم الطبي المستمر المدعومة من شركات الأدوية (اللقاءات غير الترويجية)					
57	من المقبول حضور المؤتمرات ومحاضرات التعليم الطبي المستمر المدعومة من شركات الأدوية .					
58	يقدر الأطباء دعم شركات الأدوية للمؤتمرات ومحاضرات التعليم الطبي المستمر .					
59	دعم شركات الأدوية للمؤتمرات ومحاضرات التعليم الطبي المستمر يقلل من موضوعية هذه اللقاءات.					
60	الضيافة المرافقة للمؤتمرات ومحاضرات التعليم الطبي المستمر تشجع على الحضور.					
	3.6 الاتجاهات نحو لقاءات و محاضرات شركات الأدوية (اللقاءات الترويجية)					
61	من المقبول حضور اللقاءات و المحاضرات التي تنظمها شركات الأدوية.					
62	المحاضرات و اللقاءات التي تنظمها شركات الأدوية ذات قيمة علمية.					
63	المحاضرات و اللقاءات التي تنظمها شركات الأدوية ذات مصداقية.					
64	المحاضرات و اللقاءات التي تنظمها الشركات تتضمن معلومات متوازنة عن المنافع و المخاطر للدواء.					

	3.7 الاتجاهات نحو المؤتمرات الخارجية المدعومة من شركات الأدوية	غير موافق بشدة	غير موافق	محايد	موافق	موافق بشدة
65	من المقبول حضور مؤتمر خارجي بدعم من شركات الأدوية.					
66	المؤتمرات الخارجية المدعومة من شركات الأدوية ذات قيمة علمية.					
67	حضور مؤتمر خارجي بدعم من شركات الأدوية يقلل من مهنية الطبيب.					
	3.8 الاتجاهات نحو الأبحاث العلمية الممولة من شركات الأدوية					
68	من المقبول المشاركة بدراسة علمية ممولة من شركة أدوية.					
69	الدراسات العلمية الممولة من شركات الأدوية ذات قيمة علمية.					
70	الدراسات العلمية الممولة من شركات الأدوية تراعي المعايير الأخلاقية للبحث العلمي.					
	3.9 الاتجاهات نحو المكافآت المالية المقدمة من شركات الأدوية					
71	من المقبول تلقي الطبيب مكافأة مالية مقابل خدمة قدمها لشركة أدوية.					
72	من المقبول تلقي الطبيب مكافأة مالية مقابل محاضرة قدمها لشركة ادوية.					
73	تلقي المكافآت المالية من شركات الأدوية يقلل من استقلالية الطبيب.					
	3.10 الاتجاهات نحو الإعلان المباشر للجمهور (المرضى) لشركات الأدوية					
74	الإعلان المباشر للجمهور (المرضى) من قبل شركات الادوية أسلوب تسويقي مقبول .					
75	الإعلان المباشر للجمهور (المرضى) من قبل شركات الأدوية يشجع المرضى للبحث عن العلاج.					
76	الإعلان المباشر للجمهور(المرضى) من قبل شركات الادوية يتضمن معلومات كافية عن خصائص العلاج .					

يرجى وضع إشارة (√) أمام كل بند في المربع لذي يعكس بدقة وجهة نظرك نحو الممارسات التسويقية حسب نوع الشركة (برجاء الالتزام بخيار واحد فقط):

	3.11 الاتجاهات نحو الممارسات التسويقية لشركات الادوية حسب نوع الشركة	خيار واحد فقط					
		لا أحد	مستودعات الادوية	الشركات المصرية	الشركات الاسرائيلية	الشركات المحلية	الشركات الأجنبية
77	أفضل زيارات ممثلي الدعاية من قبل						
78	أفضل المواد المطبوعة الموزعة من قبل						
79	أفضل العينات الطبية المجانية المقدمة من قبل						
80	أفضل الهدايا المقدمة من قبل						
81	أفضل المؤتمرات و محاضرات التعليم المستمر المدعومة من قبل						
82	أفضل اللقاءات والمحاضرات المنظمة من قبل						
83	أفضل المؤتمرات الخارجية المدعومة من قبل						
84	أفضل الابحاث العلمية الممولة من قبل						
85	أفضل المكافآت المالية مقابل خدمات قدمتها كالمحاضرات و الاستشارات من قبل						
86	أفضل الإعلانات المباشرة للجمهور (للمرضى) المعلنة من قبل						

القسم الرابع : الرغبة بالمشاركة بالممارسات التسويقية:[

يرجى وضع إشارة (√) أما م كل بند في المربع الذي يعكس بدقة وجهة نظرك :

	4.1 المشاركة بالممارسات التسويقية	غير موافق بشدة	غير موافق	محايد	موافق	موافق بشدة
87	أرغب بزيارات ممثلي شركات الأدوية.					
88	أرغب بتلقي المواد المطبوعة لشركات الادوية.					
89	أرغب بتلقى العينات الطبية المجانية من شركات الأدوية.					
90	أرغب بتلقي الهدايا المقدمة من شركات الأدوية.					
91	أرغب بحضور المؤتمرات و محاضرات التعليم المستمر المدعومة من شركات الأدوية.					
92	أرغب بحضور القاءات و المحاضرات التي تنظمها شركات الأدوية.					
93	ارغب بحضور مؤتمر خارجي بدعم من شركات الأدوية.					
94	ارغب بالمشاركة ببحث علمي ممولة من شركات الادوية.					
95	ارغب بتلقي مكافآت مالية من شركات الادوية مقابل خدمات أقدمها لهم.					
96	ارغب بالإعلان الموجه مباشرة للجمهور (المرضى) لشركات الأدوية.					

القسم الخامس الأثر على السلوك الوصفي و اختيار العلاج

يرجى وضع إشارة (√) أمام كل بند في المربع لذي يعكس بدقة وجهة نظرك :

	5.1 الأثر على السلوك الوصفي و اختيار العلاج	غير موافق بشدة	غير موافق	محايد	موافق	موافق بشدة
97	الممارسات التسويقية لشركات الأدوية تؤثر على وصف الأطباء واختيارهم للأدوية.					
98	يؤخذ بالاعتبار الدعم المقدم من شركة الأدوية عند الاختيار بين الأدوية البديلة.					
99	زيادة تعرض الأطباء للممارسات التسويقية لشركات الادوية تزيد من وصفهم لأدويتها .					
100	زيادة قيمة الخدمة المقدمة للأطباء في الممارسات التسويقية لشركات الأدوية تزيد من وصفهم لأدويتها.					
101	الاطباء الآخرون تحت ضغط من شركات الأدوية لوصف أدويتها.					
102	الأطباء الآخرون أكثر تأثرا بالممارسات التسويقية لشركات الأدوية.					

القسم السادس: القوانين و الأخلاقيات و التدريب

يرجى وضع إشارة (√) أمام كل بند في المربع الذي يعكس بدقة وجهة نظرك :

	6.1 تنظيم الممارسات التسويقية	غير موافق بشدة	غير موافق	محايد	موافق	موافق بشدة
103	ينبغي تطبيق قوانين تنظم العلاقة بين الاطباء وشركات الأدوية.					
104	ينبغي تطبيق ميثاق أخلاقي يضبط العلاقة بين الاطباء وشركات الأدوية.					
105	ينبغي عقد دورات تدريبية للأطباء حول التعامل مع شركات الأدوية.					
106	ينبغي منع ممثلو شركات الادوية من دخول مستشفيات وزارة الصحة.					
107	ينبغي الرقابة على المواد المطبوعة لشركات الأدوية .					
108	ينبغي ان تكون العينات الطبية بعبوات مخفضة مختومة بعبارة "ليست للبيع"					
109	ينبغى حصر استخدام العينات الطبية المجانية بتوزيعها على المرضى فقط.					
110	ينبغي حصر قيمة الهدايا المقدمة من شركات الادوية ضمن قيمة محددة.					
11	ينبغي تشجيع شركات الأدوية على تمويل المؤتمرات ومحاضرات التعليم الطبي المستمر.					
112	ينبغي منع شركات الأدوية من تقديم محاضرات في مستشفيات وزارة الصحة.					
113	ينبغي اختيار الأطباء للمشاركة بالمؤتمرات الخارجية من قبل الوزارة.					
114	ينبغي على الطبيب الحصول على موافقة وزارة الصحة عند المشاركة ببحث علمي لشركات الأدوية					
115	ينبغي ان يفصح الطبيب للوزارة عن المكافآت المالية التي يتلقاها من شركات الأدوية.					
116	ينبغي حصر تسويق الأدوية الملزمة بوصفة طبية على الأطباء فقط.					

مع خالص الشكر والتقدير.

Appendix (10): Questionnaire Referees

No.	Referee	Field	Place of Work
1	Dr Amal Abu Jamee	Consultant Cardiology	Cardiology Department, Shifa Hospital, MOH.
2	Dr Ata Darwish	Philosophy in Education	Azhar University Gaza.
3	Dr Bassam Abu-Hamad	Health Management & Methodology	School of Public Health, Al-Quds University.
4	Dr Ehab Al Masri	Pharmacy	Faculty of Pharmacy, Azhar University Gaza.
5	Dr Fadel Naim	Consultant Orthopedics	Faculty of Medicine, IUG
6	Dr Fares Abu Moamer	Business Administration	Faculty of Commerce, IUG
7	Dr Faroq Masroujah	Pharmacy	Masrouji Co. Ltd.
8	Dr Majed Al Farra	Business Administration	Faculty of Commerce, IUG
9	Dr Mohammed Habib	Consultant Cardiology	Cardiology Department, Shifa Hospital, MOH.
10	Dr Sami Abu AlRoss	Business Administration	Faculty of Commerce, IUG
11	Dr Samir Safi	Statistics & Methodology	Faculty of Commerce, IUG
12	Dr Wael Al Dayyah	Business Administration	Faculty of Commerce, IUG
13	Dr Wasim Al Habel	Business Administration	Faculty of Commerce, IUG

* Names are alphabetically enlisted

Appendix (11): List of Experts Who Propose Weights for Marketing Practices

No.	Expert	Place of Work
1	Dr Ashraf Abu Mehadi	General Directorate of Pharmacy
2	Dr Faroq Masroujah	Masrouji Co. Ltd.
3	Dr Kalid Abu Saman	Primary HealthCare , MOH
4	Dr Mageda Kishawi	General Directorate of Hospital, MOH
5	Dr Mohammed Shurrab	Novartis Pharma Service Inc.
6	Dr Mohammed Zemili	Pharmacare PLC for the manufacturing of pharmaceuticals
7	Dr Osama Balawi	Health Information Center, MOH

* Names are alphabetically enlisted

Appendix (12): Weights for Each Marketing Practice

No.	Item	Weight
1	PCR Visiting & Detailing	5%
2	Free Medical Samples Distributing	10%
3	Promotional Printed Materials Distributing	3%
4	Gift Giving	5%
5	Non Promotional Events Sponsoring	3%
6	Promotional Events Organizing	10%
7	Foreign Conferences Travel Sponsoring	35%
8	Scientific Studies Funding	15%
9	Honoraria Paying	12%
10	DTC Advertising	2%

Appendix (13): Recommendations for the Policy Makers-Arabic Version

التوصيات لصناع القرار

- تشجيع التعاون بين الأطباء و شركات الأدوية على أساس تحسين الممارسة الطبية وبما يضمن تحقيق مصلحة المريض.
- تطوير لوائح رسمية ومواثيق أخلاقية تحكم العلاقة بين الأطباء و شركات الأدوية.
- طباعة وتوزيع هذه اللوائح والمواثيق على الأطباء و شركات الأدوية.
- تنظيم دورات تدريبية وندوات تعليمية عن هذه اللوائح والمواثيق لتشجيع التزام الأطباء و شركات الأدوية وتقوية مفهوم التحالف على أساس مصلحة المريض.
- إدخال هذا التدريب ضمن مناهج كلية الطب والصيدلة، وضمن برامج تدريب الأطباء والصيادلة حديثي التخرج و أطباء الامتياز من قبل الإدارة العامة لتنمية القوى البشرية.
- التقويم المستمر والمتابعة والرقابة لممارسات الأطباء وشركات الأدوية، وتزويدهم بتغذية راجعة مكتوبة عن أدائهم واتخاذ الإجراءات التصحيحية اللازمة.
- تحديث هذه اللوائح والمواثيق بشكل مستمر كل 2-3 سنوات حسب ما تتطلبه المتغيرات في السوق الدوائي و في العلاقة بين الأطباء و شركات الأدوية.
- تشجيع التواصل بين صناع القرار والأطباء وشركات الأدوية لبناء علاقات متوازنة وتحقيق المنفعة المشتركة بما يحقق مصلحة المريض.
- إجراء دراسات مماثلة تشمل كل مقدمي الخدمات الصحية في قطاع غزة والضفة الغربية للحصول على نتائج وطنية.

Appendix (14): Guidelines for each Marketing Practice:

PCRs:

- The ultimate purpose of all interactions of PCRs with physicians is to enhance medicine practice for patients' benefit.
- Nothing may be offered by PCRs to physicians that would have an inappropriate influence on physicians' independent decision to prescribe products.
- PCRs must have sufficient medical and technical knowledge to present information on their company's drugs in an accurate, responsible and ethical manner.
- PCRs must be adequately trained and this training should be an on-going process and should include familiarity with appropriate national, international and self-regulatory codes of practice.
- Products must not be promoted by PCRs until all necessary approvals for marketing have been received from local health authority.
- PCRs must only promote products for use in indications approved by local health authorities.
- PCRs must not promote unapproved drugs or indications in the form of off-prints from scientific journals. This information may be given to physicians by the medical departments in pharmaceutical companies and upon unsolicited physician's request.
- Dissemination of investigational findings can be shared at scientific events or as pipeline information to investors.
- PCRs must immediately forward any adverse events information to clinical safety/medical departments in companies and local health authority.

Promotional Printed Materials:

- Printed promotional materials must be accurate, scientifically sound, objective, reflect the current state of knowledge and consistent with the approved prescribing information.
- Printed promotional materials must be presented in a legible manner, for examples:
    - Use of the word "safe" without proper qualification.
    - Use of the word "effective"' without proper qualification.
    - The word "new" unless the product or indication is really new i.e. up to 1 year, or less after local launch.
    - Use of the words "non-toxic", "no side effects" is inappropriate.
- All advertisements appearing in promotional printed materials must include:
    - The name of the product (the approved brand name).

- The active ingredients, using an approved name where exists.
- The name and address of the company or its agent responsible for the marketing the product.

- Full advertisements must also include prescribing information in the form of:

  -An approved indications for use with the dosage and method of use.

  -A succinct statement of the contraindications precautions and side effects.

- Reminder Advertisements which contain no more than a simple statement of indications :
  - The prescribing information required may be omitted,
  - A form of words which clearly indicates that further information is available on request.
- Visuals must be accurate and consistent with the text, must not contain misleading graphs, tables or artwork and should be in good taste in relation to the information conveyed.
- Graphs and tables must be accurate and not misleading, and they should give a description of the axes. They must also be adequately referenced. Misleading scales or dimensions must not be used.
- The mailing address of the contact from whom further information may be obtained must appear.
- The statement that further information is available on request should normally appear in the advertisement.
- A clear reference should be given in the printed materials.
- Quotations from medical literature or from personal communications must not change or distort the intended meaning of the author or clinical investigator or the significance of the underlying work or study.
- Copyright permission must be obtained and acknowledgement given where appropriate
- Promotional information provided using other media as Audio-visual and Computer based Promotional Materials must fulfill the relevant requirements for printed materials.

Free Medical Samples:

- Samples may be supplied to the prescribing physicians to familiarize them with the products and to enable them to gain experience with the product in their practice, or upon request.
- Samples must be clearly identified with “Free medical samples, Not for Sales”.
- Reduced package of samples is preferred.

- Samples may not be sold to patients or pharmacies or other entity under any circumstances.
- The frequency and volume of samples distributed to physicians should be reasonable.
- Companies must maintain records for distributed samples per each physician.

Gift Giving:

- Gift items of insignificant value, provided free of charge, are permissible as long as they are related to the healthcare provider's work and/or entail a benefit to patients.
- Gift giving is aimed to raise awareness of pharmaceutical companies' drugs.
- Gift giving must not interfere with the independence of physicians.
- Gift giving must not provide a personal benefit to physicians.
- Gift giving must be inexpensive compared to local average physicians' salaries.
- Gift giving must be relevant to the practice of medicine and useful in physicians' day -to- day practice, such as anatomical/bone models, examination gloves, ECG/ultrasound gel, medical textbooks, notebook , pens , folders, laser pointers for speakers, tissue boxes etc.
- Gift giving must not be given frequently.
- As possible, promotional gifts should be branded with the companies and/or drug's name.
- Courtesy gifts are permitted only on culturally recognized occasions, do not necessarily need to be relevant to the practice of medicine, but they have to be socially acceptable, must be inexpensive compared to local average physicians' salaries and must not include any promotional information.
- Promotional gifts may include company/trade/generic name and/or logo. If any claim is made, the local succinct statement should be included.

Events Sponsoring:

- Pharmaceutical companies may sponsor events under the following conditions:
    - Does not interfere with the independence of physicians.
    - Is limited to travel, meals, accommodation and registration fees.
    - Physicians must not be compensated for time spent in such events.
    - Is limited to the invited physicians and must not pay for any costs associated with persons accompanying physicians.
- Scientific objectives should be the principal focus in arranging such meetings and entertainment and other hospitality shall not be inconsistent with such objectives.

- Events should be held in appropriate venues only which are suitable to achieve the purpose of the meeting. Pharmaceutical companies must may not organize or fund events at extravagant places.
- Entertainment or other hospitality and any gifts offered to physicians should be secondary to the main purpose of the meeting.
- Hospitality must be limited to refreshments/meals and must be modest in value that should not exceed what physicians would be prepared to pay for personal purposes.
- The fact of sponsorship by the company or association should be clearly stated in advance, at the meeting and in any proceedings.
- Clear separation between promotional and non-promotional events where activities which are motivated by the objective to promote products must be openly considered as promotion.
- Drug presentations, launches, symposia and the like that presented in these events are indispensable for the dissemination of knowledge and experience.
- Printed, audio-visual or computer-based materials arising from such meetings should accurately reflect the presentations and discussions.
- Promotional materials which appears on exhibition stands or is distributed to participants at such events must refer to approved products indications.
- Any support to individual health practitioners to participate should not be conditional upon any obligation to promote any medicinal product.
- If the program is accredited for postgraduate medical education by a medical or other professional organization, responsibility for the program content remains with the organization responsible for obtaining accreditation for the meeting, and industry support should be disclosed.

Honoraria Paying:

- Payments in cash or cash equivalents are not allowed in general, except for specific services allowed by laws and in such cases a proper process of review/approval and documentation has to be established and presented to local health authority.
- Payments of reasonable honoraria and reimbursement of out-of-pocket expenses, including speakers and consultant are customary and proper.
- Any honoraria paying to physicians should not be conditional upon any obligation to promote any medicinal product.
- The purpose of engaging physicians to speak at events is to share relevant scientific and/or educational information.
- The purposes of engaging physicians as consultants and/or members of advisory boards are to receive specific, knowledge-enhancing information and advice.

- Interactions with physicians as speaker or consultants must not have the promotion of products as their purpose.
- Selection of engagement of physicians as speakers and consultants for pharmaceutical company must be experts in a given field.
- The engagement of physicians as speakers or consultant must not interfere with their independence.
- The engagement of physicians as speakers and consultants for pharmaceutical company must be based on a written contract which contain a clear description of tasks and responsibilities with compensation and confidentiality stipulations
- Fees and expenses must be reasonable and fair market value in relation to the services rendered regardless of a speaker's or consultant's request for compensation.
- Some speakers and consultants are rated higher than others, but it must still be in the appropriate range.

Studies Funding:

- Funding studies must not have the promotion of products as their purpose.
- Funding research must address meaningful medical or scientific topics, e.g. safety, efficacy, modes of action and performance related to other treatments.
- Funding studies involving humans must be conducted in compliance with the principles of Good Clinical Practice as laid down in the Declaration of Helsinki.
- Funding studies involving humans must have the well-being and personal integrity of participants is the highest priority.
- Funding studies involving humans should ensure the privacy of patient data against misuse or disclosure.
- Data derived from funded studies may subsequently be translated into marketing activities and promotional content.
- Interactions with physicians for study funding must include selection of physicians must be experts in a given field to recruit the patients.
- The engagement of physicians in studies must not interfere with their independence.
- The engagement must be based on a written contract which contain a clear description of tasks and responsibilities with compensation and confidentiality stipulations
- Fees and expenses must be reasonable and fair market value in relation to the services rendered.

Foreign conferences:

- Payments of reasonable reimbursement of out-of-pocket expenses, for foreign conferences travel, are customary and proper.
- Companies should not pay travel costs of persons accompanying the invited physicians.
- It is not permitted to conduct sightseeing tours.
- Promotional materials for products not registered in the country of the event must include a suitable statement indicating the registration status of the product.
- Promotional materials which refer to the prescribing information (indications, warnings etc.,) authorized in a country or countries other than that in which the event takes place, must include an explanatory statement indicating that registration conditions differ internationally.

DTC Advertising

- Communication with patients through DTC advertising should aim at supporting better healthcare.
- As consumers or caregivers have not received the same medical education as physicians, careful consideration needs to be made about the appropriateness, language and style of the communication.
- Therapeutic decisions must be made by healthcare professions only.
- Promotion of prescription-only products to patients by DTC advertising is not allowed.
- Promotion of OTC drugs by DTC advertising is allowed, but must follow specific applicable law and released by health authorities.