



**School of Commerce Department of Marketing
Management Post Graduate Program**

**Attitudes of Undergraduate and Postgraduate Medical Students
towards Promotional Effort by Pharmaceutical Companies in
Ethiopia: A Case of St. Paul Hospital Millennium Medical College**

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Statement of Certification

This is to certify that this thesis work, “Attitudes of Undergraduate and Postgraduate Medical Students towards Promotional Effort by Pharmaceutical Companies in Ethiopia: A Case of St. Paul Hospital Millennium Medical College”, undertaken by Eyosias Degaga for the partial fulfillment of Masters of Art in Marketing Management at Addis Ababa University, is an original work and not submitted earlier for any degree either at this University or any other Universities.

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Date: _____

Declaration

I, Eyosias Degaga declare that this work entitled “Attitudes of Undergraduate and Postgraduate Medical Students towards Promotional Effort by Pharmaceutical Companies in Ethiopia: A Case of St. Paul Hospital Millennium Medical College”, is the outcome of my own effort and study and that all sources of materials used for the study have been acknowledged. I have produced it independently except for the guidance and suggestions of the Research Advisor.

This study has not been submitted for any degree in this University or any other Universities. It is offered for the partial fulfillment of degree of Masters of Art in Marketing Management.

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ADDIS ABABA UNIVERSITY SCHOOL OF COMMERCE

“Attitudes of Undergraduate and Postgraduate Medical Students towards Promotional Effort by Pharmaceutical Companies in Ethiopia: A Case of St. Paul Hospital Millennium Medical College”

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Abstract

This study investigated the attitude of medical students toward pharmaceutical companies' promotional effort in Ethiopia. A total of 125 medical students in St. Paul Hospital were used in the study. Self-administered survey questionnaire was used to collect data.

It is aimed at mainly finding out the overall attitude level of medical students' toward pharmaceutical promotion. The finding show that the overall attitude level of medical students is in the positive range but just a bit above the neutral point. The analysis of independent sample t test and one-way ANOVA on different demographic subgroups reveals that the average attitude score of age and gender group found different, but between groups in educational level is not.

Finally, suggestions and recommendations are forwarded for different groups in the study including, pharmaceutical companies marketer, PSRs, and policymakers in the country for ensuring the effective and ethical pharmaceutical promotion.

Key words: Pharmaceutical Promotion, Pharmaceutical sales representatives, Detailing, Sample drug, Gifts, Attitude, Medical Students, Ethiopia

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List of acronyms/abbreviations

ANOVA: Analysis of Variance

PSRs: Pharmaceutical Sales Representatives

SPMMC: St. Paul's Hospital Millennium Medical College

CHAPTER I

INTRODUCTION

1.1. Background

Companies ranging from large multinational corporations to small retailers increasingly rely on promotion to help them market products and services. Evidences show that there is an increase in promotional expenditure in global marketplace year to year. The growth in promotional expenditures also reflects the fact that marketers around the world recognize the value and importance of promotion. Promotional strategies play an important role in the marketing programs of companies as they attempt to communicate with and sell their products to their customers. Promotional mix has included major elements like advertising, sales promotion, publicity, public relations, personal selling, direct marketing, and interactive media that modern-day marketers use to communicate with their target markets. Among major promotional mix elements one is personal selling. It is a form of person-to-person communication in which a seller attempts to assist and/or persuade prospective buyers to purchase the company's product or service or to act on an idea (Belch and Belch, 2003)

According to Limu & Mark (2010) personal selling is a critical component of pharmaceutical marketing that is why pharmaceutical companies have engaged in extensive personal selling. Saurabh, S. K (2015) stated, in pharmaceutical industry, the patient is end customer and the doctor is direct customer, especially for those pharmaceutical companies which sell prescribed medicines. Pharmaceutical companies typically direct their marketing efforts toward physicians (Manchanda & Honka, 2005). Limu & Mark (2010) & Zaki (2014) identified that, the marketing efforts towards practicing physician and trainee physician include: pharmaceutical sales representatives (PSRs)

communicate pharmaceutical and marketing information to physicians (detailing), Provision of drugs at no cost (sampling), Provision of different kinds of gifts, and etc.

Donohue, J. M., Marsa, C. & Resenthal, M. B., (2007) pinpoint that direct-to-consumer advertising (DTCA) of prescription medicines was introduced to USA and other developed countries in early 1990s. But in Ethiopia DTCA is not started yet. According to the regulation of pharmaceutical promotion companies are prohibited from promotional efforts directed to general public, especially for prescribed medicine. Companies are only allowed personal selling effort by certified pharmaceutical company representatives (PCRs) only to health professionals (FMHACA, 2012) i.e. In Ethiopia, to promote prescribed medicines, effort directed to health professionals is the only and legal promotional strategy used by the industry. Hence pharmaceutical companies in Ethiopia should give appropriate care when communicating their target customer. However, in Ethiopia personal selling is the only means of promotion for pharmaceutical products even other countries those have an options of promotional techniques employ representatives as the best and most efficient means of convincing practicing physicians to prescribe certain medication (Lexchin, 1993).

According to Eagly & Chaiken (1993) attitude defined as “a psychological tendency that is expressed by evaluating a particular entity with some degree of favor or disfavor”. If we want to alter the way people act, we need to change their hearts and minds (Anon., 2014). In this context the act needed is prescribing company’s product by physician based on information from PSRs (detailing), sample drugs, and other promotional activities.

Hence, it is important to assess the attitude of practicing and trainee physicians towards promotional effort directed to them. This survey attempted to assess the undergraduate & postgraduate students’ attitudes towards promotional effort by Pharmaceutical Sales Representatives (PSRs) in St. Paul’s

Hospital Millennium Medical College (SPHMMC). It is important to study doctors in training because this is where their attitudes are formed (WHO and Health Action International, 2005).

St. Paul's Hospital Millennium Medical College (SPHMMC) has launched its first training program in medical education in 2008. The college currently enrolls a total of 755 medical students in undergraduate and postgraduate programs. It offers specialty trainings in Obstetrics and Gynecology, Surgery, Internal Medicine, Pediatrics, and Radiology, with a fellowship in Maternal-Fetal-Medicine (SPHMMC, 2014). This survey focuses on students who started treating and prescribing medication to their patients, those who are final year medical students (internships) and join postgraduate program in Obstetrics & Gynecology, Surgery, Internal Medicine, Pediatrics, other students in the same field of study from Addis Ababa University, Defense Health Science College and assigned to SPHMMC during the period of data collection.

1.2. Statement of the Problem

In pharmaceutical industry firm tries to convince physicians to prescribe certain medication by communicating them through pharmaceutical sales representatives (PSRs) (Lexchin, 1993). Business communications promote goodwill, inform and persuade or request - often simultaneously. Because a sender can only accomplish successful communication with a receiver's cooperation, an appropriate attitude is essential (Sophie, 2015).

Although many researches attempted to assess the attitudes of practicing physicians (Deborah, et al., (2010), Karayanni, (2010), & Lieb & Brandtönies, (2010)) and medical students (Austad, et al., (2011), Lieb & Koch, (2013), & Siddiqui, et al., (2014)), towards promotional activities by pharmaceutical companies most of them focused on its impact on medical ethics rather than in marketer's perspective.

In best knowledge of the investigator, in Ethiopia there is no attempt made to assess the attitude of both practicing physician and medical students towards promotional efforts by pharmaceutical companies from both ethical and/or marketing perspective. According to Eagly & Chaiken (1993) attitude is defined as “a psychological tendency that is expressed by evaluating a particular entity with some degree of favor or disfavor”. If we want to alter the way people act, we need to change their hearts and minds (Anon., 2014). For pharmaceutical marketers it is important to know what holds in the hearts and minds of both practicing and trainees doctors towards their promotional efforts (i.e. the attitudes towards pharmaceutical companies’ promotional effort) to act accordingly.

Therefore, this survey attempted to assess the undergraduate and postgraduate medical students’ attitudes towards promotional effort by pharmaceutical companies in Ethiopia.

1.3. Definition of Terms

Attitude: According to (Eagly & Chaiken, 1993) attitude defined as “a psychological tendency that is expressed by evaluating a particular entity with some degree of favor or disfavor”

Detailing: Detailing refers to the activity of pharmaceutical sales representatives (reps), when they make calls to physicians and provide them with "details" of approved scientific information, benefits, side effects, or adverse events, related to a drug (Pharma Marketing Network, 2015).

Detail: "Detail" means that parts of an in person, face-to-face sales Call during which a Sales Representative, who is trained and knowledgeable with respect to the applicable Product, including its label and package insert, and the use of the applicable promotional materials, makes a presentation of such Product to a medical professional with prescribing authority. When used as a

verb, "Detail" means to engage in Detailing activities. (Pharma Marketing Network, 2015)

Sample drug: According to the Prescription Drug Marketing Act of 1987, the term "drug sample" means a unit of a drug, which is not intended to be sold and is intended to promote the sale of the drug. According to this act, the manufacturer or distributor of a drug subject may distribute drug samples by mail or common carrier to practitioners licensed to prescribe such drugs or, at the request of a licensed practitioner, to pharmacies of hospitals or other health care entities. The recipient of the drug sample must execute a written receipt for the drug sample upon its delivery and the return of the receipt to the manufacturer or distributor (Pharma Marketing Network, 2015).

Gifts: A gift is understood to mean: A sum of money, or Any physical object, or The possibility to participate for free in events which are open to the public or are private in nature, are only accessible in return for payment and represent a certain value (such as complimentary tickets for sports events, concerts, theatre, conferences etc.), or Any other advantage with a pecuniary value such as transport costs (EMA, 2013).

1.4. Research Questions

In order to achieve proposes of this study, the investigator has formulated the research question by relying on the background and problem statement as the following:

- What are the attitudes of medical students towards promotional effort by pharmaceutical companies?
- What are the attitudes of medical students towards pharmaceutical sales reps, detailing, gifts, and sample drugs?
- Is there any difference on attitude based on demographic difference (age, sex, and educational level) of medical students toward pharmaceutical promotion?

1.5. Objectives of the Study

General Objective

- ❖ To assess the attitude of medical students towards promotional effort by pharmaceutical companies.

Specific Objectives

- ❖ To assess the attitude of medical students towards pharmaceutical sales reps, gifts, detailing, and sample drug.
- ❖ To assess the difference/similarity of attitudes of medical students based on demographic difference (age, sex, educational level, and department).

1.6. Significance of the Study

This study will contribute to managers in charge of promotional activities in pharmaceutical companies in Ethiopia, helping them in grasping what attitudes medical students hold towards promotional efforts by the companies directed to doctors. Why it is important to study doctors in training because it is where their attitudes are formed ((WHO and Health Action International, 2005) and students' responses to this survey will present an interesting snapshot of how future physicians in Ethiopia view the promotional effort by pharmaceutical industry. Further based on the attitudes the marketers will design their promotional activities in efficient and effective manner. The study might also pave the way for further study on the effect of attitude on the prescribing behavior of physicians and thereby track for possible remedy to change, reduce even eliminate the negative attitude medical students and/or practicing physicians have. This study also has its own contribution for both decision makers and researchers in field of medical ethics.

1.7. Ethical considerations & Confidentiality

Data collection was started after official letter from Addis Ababa University, school of commerce department and ethical clearance from SPHMMC

Institutional Review Board (IRB) was secured after reviewing the proposal. Also permission was granted from the respective departments of the hospital. All respondent participated in the study voluntarily and they signed a written informed consent before going through the questionnaire. Participants were guaranteed confidentiality of the information and right to refuse participation or quit participation at any time during their involvement in the study. There was no benefit provided to participate in the study.

CHAPTER II

LITRATURE REVIEW

2.1. Definition and Theory of Attitude

There is no universally accepted and agreed definition of what attitudes are.

Definitions of attitudes include the following:

- According to Eagly & Chaiken (1993) attitude is defined as “a psychological tendency that is expressed by evaluating a particular entity with some degree of favor or disfavor”.
- “Attitudes are relatively stable mental positions held toward ideas, objects or people” (Gleitman 1991)
- “Attitude is an idea charged with emotion which predisposes a class of actions in particular class of social situations” (Antonak, 1988, p.109)
- An attitude 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)
- “An attitude is an idea (cognitive component) charged with emotion (affective component) which predisposes a class of actions (behavioral component) to a particular class of social situations” (Triandis et al, 1984, p. 21).

As can be seen in the above definitions, attitudes are often defined in terms of mood, thought processes, behavioral tendencies and evaluation (Hernandez et al, 2000). Cognitive evaluations refer to thoughts people have about the attitude object. Affective evaluations refer to feelings or emotions people have in relation to the attitude object. Behavioral evaluations refer to people’s actions with respect to the attitude object. The attitude object in this literature review and in this Survey is medical students’ Attitudes toward pharmaceutical

companies' promotional effort (PSRs, Detailing, Promotional Gifts, and Drug Samples).

According to Baron and Byrne (2010) Attitudes are important because strongly influence our social thought, help to organize and evaluate stimuli (e.g., categorizing stimuli as positive or negative), presumably have strong effects on behavior, and help to predict people's behavior in wide range of contexts.

The literature review done on researches on pharmaceutical promotion concludes, that, 'there is a wide range of evidence on different topics, using a range of different designs, suggesting that promotion affects attitudes and behavior. However there are gaps in the evidence and more high-quality studies are needed to establish causal relationships between promotion and attitudes and behavior of doctors and others (WHO/Health Action International, 2009).

2.2. Pharmaceutical Marketing and Market

Bates, A. et al. (2002) describe pharmaceutical marketing as a synergistic integrated activity. Activities work in tandem with each other to drive prescribing behaviors. S. Vasiljev and D. Pantelic (2010) also present that based on specific nature of its products and in the complex interests of the main constituents of market demand the pharmaceutical market represents one of the most dynamic and controversial markets. And they recommend the understanding of marketing theory and best practice logic and comparing it with on-going everyday practice to improve marketing practice in the pharmaceutical sector.

According to Y.B. Limbu & M.Kay (2010) personal selling is a critical component of pharmaceutical marketing. Pharmaceutical companies have engaged in extensive personal selling. The type of personal selling employed in this industry is commonly referred to as "missionary selling" due to the fact that salespeople inform and instruct physicians on their products, while they do not take specific orders or attempt to elicit sales. Their primary role is one of

providing information to assist doctors in understanding specific patient therapeutic options. Given this role, pharmaceutical sales people have a critical information diffusion function.

As Manchanda and Honka (2005) reviewed many research works and point out that pharmaceutical companies directing all their marketing efforts towards doctors and Dr. Neeti Kasliwal (2013) also present Indian practice that pharmaceutical companies directing all their marketing efforts towards doctors to influence them to prescribe their products. The marketing effort is not only directed to practicing physicians but also directed to medical students even starting in early years of medical (school Sarikaya et al. 2009) & (Siddiqui et al, 2014).

The marketing activities towards practicing physician and medical students comprise: Face to calls, where pharmaceutical sales representatives (PSRs) communicate pharmaceutical and marketing information to physicians (detailing) Y.B. Limbu & M.Kay (2010), Provision of drugs at no cost (sampling) Zaki, N.M. (2014), Provision of different kinds of gifts, and etc.

2.3. Pharmaceutical Sales Representatives and Physicians Attitude toward them

Pharmaceutical sales representative (formerly detailman) is salespeople employed by pharmaceutical companies to persuade doctors to prescribe their drugs to patients (Wikipedia, 2015). Senders, in this case PSRs, can only accomplish successful communication with a receiver's (medical doctors) cooperation, an appropriate attitude is essential (Sophie, 2015).

One study in northwestern Pennsylvania suggest that physicians' attitudes were influenced by the information and educational support they received from PSRs, selling techniques used by PSRs to promote their products, and the volume of patients they saw (Andaleeb & Tallman, 1995).

Most (71%) psychiatry trainees surveyed by Hodges, disagreed those sales representatives should be banned from making presentations in their training program (Hodges, 1995). Most directors of internal medicine residency programs (67%) felt that the benefits of sales representatives outweighed the negative effects (Lichstein et al, 1992). 81% of the medical students were of the opinion that pharmaceutical companies should be allowed to interact with them at the college level (Dr. Shahu Ingole et al, 2011).

Of the internal medicine faculty and residents surveyed by McKinney et al., 52% of faculty and 66% of residents agreed that presentations by sales representatives should be banned at their institutions. Study from Turkey by GÜLÖKSÜZ, et al., (2009) more than 75% of the physicians thought that PSRs didn't provide accurate information and used marketing techniques.

2.4. Detailing by PSRs and Physician Attitude toward it

Detailing refers to the activity of pharmaceutical sales representatives (PSRs), when they make calls to physicians and provide them with "details" of approved scientific information, benefits, side effects, or adverse events, related to a drug (Pharma Marketing Network, 2015). The provision of complete and balanced drug information is necessary for rational drug use. Both scientific and commercial information sources can provide doctors with the necessary information to make informed prescribing decisions. It is important, however, that the information provided by PSRs is accurate, complete and balanced (Alssageer, M., & Kowalski, S. (2012).

Only thirty-two per cent of the psychiatry trainees surveyed by Hodges agreed that sales representatives provide useful and accurate information on new drugs (25% for established drugs). Fifty-eight per cent of family medicine residents in Sergeant et al.'s study felt that the literature provided by sales representatives was useful. According to the Dr. Shahu Ingole et al (2011) about 95% students believe that the information given by PSRs is reliable.

Ninety-two per cent of the Canadian doctors surveyed by Strang et al. felt that sales representatives had product promotion as their major goal, and 80% felt they overemphasized medicines' effectiveness. Forty-seven per cent of the physicians in Eaton and Parish's study felt that they were not able to obtain an unbiased assessment of a newly introduced drug. Most of them felt that most drug information was too commercial and therefore biased.

The study by Mikhael et al (2014) report that, physicians believe, medical representatives provide physicians with good information about drug indication and a weak information about drug contraindications and side effects. Alssageer, M., & Kowalski, S. (2012) concluded that Doctors believe that the provision of drug information by PCR's in Libya is incomplete and often exaggerated. Pharmaceutical companies should ensure that their representatives are trained to a standard to provide reliable information regarding the products they promote.

From this also we can conclude that different attitudes are hold by both trainees and practicing physicians in this regard.

2.5. Promotional Gifts by Pharmaceutical Companies and Physician Attitude toward the Gifts

A gift is understood to mean: A sum of money, or Any physical object, or The possibility to participate for free in events which are open to the public or are private in nature, are only accessible in return for payment and represent a certain value (such as complimentary tickets for sports events, concerts, theatre, conferences etc.), or Any other advantage with a pecuniary value such as transport costs (EMA, 2013).

Study in Libya by Alssageer, M., & Kowalski, S. (2012), report that of the 608 respondents, a quarter of respondents (154; 25.3%) totally disapproved of accepting gifts from PSRs. This was balanced by an approximately equivalent number of respondents (n=152; 25%) who clearly approved. Approximately half

the respondents (n=302; 49.7%) would accept gifts in some cases. Other study on medical student confirmed the majority of all students felt it was inappropriate to accept a vacation package, a gift greater than \$50, an expenses-paid social outing, covered travel costs to a conference, or small, non-educational gifts. Free meals, textbooks, medication samples, grants for student-initiated events, and sponsored research were viewed with greater acceptance, as <50% of respondents felt these gifts were inappropriate (Cody, et al., 2010). Other study from Pakistan identified 81% of students' favored pharmaceutical sponsorship of student-body events/seminars at medical colleges. And more than one-third of the students were comfortable receiving gifts from drug companies (Siddiqui, U.T. et al., 2014).

Regarding type of gifts preferred by physician one study in Bangladesh indicated that most of the physicians preferred information and desk items from the pharmaceutical companies rather than household items (Sultana and Khosru, 2011)

The result of study in Germany medical students presented as follow: 12.1% of the students had never received any kind of gift from a drug company or participated in any drug company-sponsored event. 13.0% had received at least one sponsored lunch, and 24.6% had attended at least one sponsored lecture or CME event. 65.6% had received at least one non-informational gift, 50.8% an informational gift, 39.3% a reprint, and 8.6% a drug sample. 39.8% considered sponsored lectures informative and helpful, but simultaneously judged the presentation of content as biased. 45.6% and 49.7% of students, respectively, considered it all right to accept gifts because their influence was minimal in any case or because they considered themselves in a bad financial situation. 24.6% of the students thought gifts would influence their future prescribing behavior, while 45.1% thought gifts would influence their classmates' future prescribing behavior (Lieb, K. & Koch, C., 2013).

From this we can understand that the value and type of the gift affects the attitude or appropriateness of accepting of gifts from pharmaceutical companies.

2.6. Sample Drugs as Promotional Tool and Physician Attitude toward it

According to the Prescription Drug Marketing Act of 1987, the term "drug sample" means a unit of a drug, which is not intended to be sold and is intended to promote the sale of the drug. According to this act, the manufacturer or distributor of a drug subject may distribute drug samples by mail or common carrier to practitioners licensed to prescribe such drugs or, at the request of a licensed practitioner, to pharmacies of hospitals or other health care entities. The recipient of the drug sample must execute a written receipt for the drug sample upon its delivery and the return of the receipt to the manufacturer or distributor (Pharma Marketing Network, 2015). The purpose of supplying drug samples is to gain entry into doctors' offices, and to habituate physicians to prescribing targeted drugs. Physicians appreciate samples, which can be used to start therapy immediately, test tolerance to a new drug, or reduce the total cost of a prescription. Even physicians who refuse to see drug reps usually want samples (these docs are denigrated as "sample grabbers"). (Fugh-Berman A, & Ahari S. 2007)

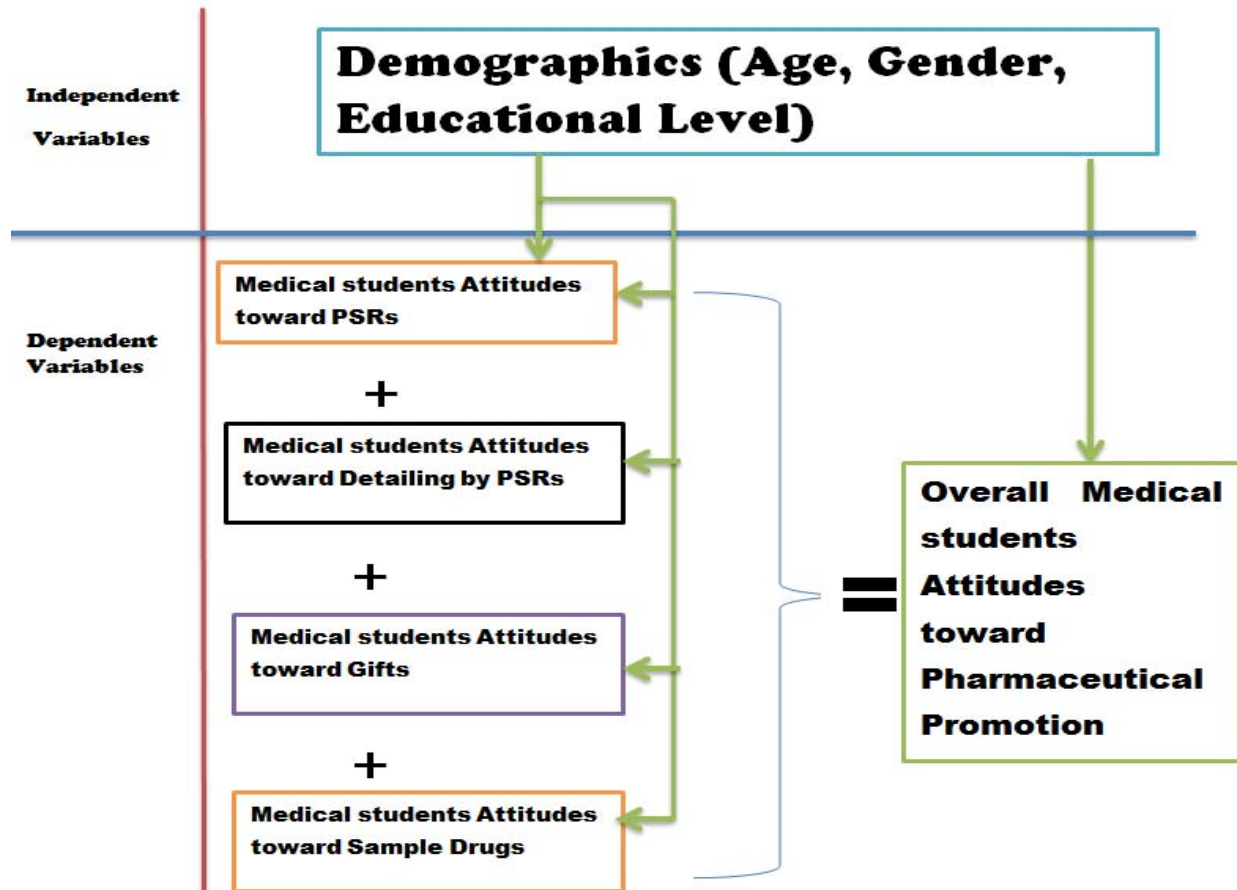
Many physicians view free samples positively and stock them to provide to patients who would otherwise have to pay for medicines and cannot afford them. A key reason that many physicians see sales representatives is to obtain free samples (WHO/Health Action International, 2009). Providing free drug samples were considered to be the single most important service provided by PSRs; 65% of physicians thought it was very important. Almost all of those who would give a sample (97%) said avoiding cost to the patient was an important or very important reason for their choice (Gaedeke et al. (1999).

2.7. Overall Attitudes level toward pharmaceutical Promotion

Research suggests that doctors' attitudes to promotion vary, and do not necessarily match their behavior. Their opinions differ on the value of sales representatives, on whether they should be banned during medical training, and on whether doctors are adequately trained to interact with them. Most doctors think information from pharmaceutical companies is biased, but many think it is useful. Health professionals find small gifts from drug companies acceptable. Doctors who report relying on promotion tend to be older, and more likely to be general practitioners (WHO/Health Action International, 2009). From this one can conclude that many factors influence the attitude level of physicians toward pharmaceutical promotion.

2.8. Conceptual Framework

Figure 1 Conceptual Framework



Source: Own illustration, 2015

2.9. Hypostasis

H1: There is significant difference between the means of the male student's attitude score and female students' attitude mean score.

H2: There is significant difference between the means of the internships' attitude score and residents' attitude score.

H3: At least one of the means of students' attitude score difference within the age groups (20-25yrs, 26-30yrs, and 31-35yrs).

CHAPTER III

METHODOLOGY

The study uses a cross-sectional survey research, in order to get quantitative description of undergraduate and postgraduate medical students' attitude towards pharmaceutical companies' promotional effort and so as to investigate the attitude of medical students, in Ethiopia, towards PSRs, Detailing, promotional gifts, and sample drugs. The study uses both undergraduate (only internships) and Postgraduate doctors in St. Paul Hospital Millennium Medical College as a unit of observation.

3.1. Sample & Sampling techniques

To collect primary data for this study all internship in 2014/2015 class year and all residences in SPHMMC and willing to participate in this study was requested to respond to the questionnaire i.e. census was performed. This is because the total number of the targeted population was one hundred forty eight according to the information gathered from each department. In Ethiopia according to the information from pharmaceutical sales representatives their promotion effort is targeted to physicians who is prescribing medicines to the patients whether he/she is practicing physician or trainee physician in hospital setting. SPHMMC was selected because of its admission procedure which is different from other public medical schools where Ministry of Education assigned students for them. SPHMMC based on its own criteria tries to balance the number of students admitted from each regional state of the country, in a way that promotes both gender equality and representation of less developed regions of the country. It gives chances of 30% to those from the emerging regions and 30% for female applicants. This helps to get students representative from all over the country. In addition, students from Addis Ababa University (Public), Hayat Medical College (private), and Ethiopian

Defense College of Health Sciences (Uniformed) are assigned in the hospital for practical attachment.

3.2. Sources and Tools/Instruments of Data collection

Survey questionnaire was used those adopted from previous research works. The instrument was having five parts that contain a total of 43 items. Part I present questions about demographic characteristics of the respondents 6 items. Part II present questions about attitude towards Pharmaceutical Sales Representatives (PSRs) consist 10 items in 5 point Likert scale style adopted from GÜLÖKSÜZ, et al., (2009) as developed by McKinney et al. (1990) in order to determine physicians' attitudes and behaviors towards the drug industry and was re-adapted by Randall et al. (2005) with cronbach's alpha 0.777 . Part III present items measuring of the attitude toward gifts 5 items adopted from Siddiqui et al. (2014) with cronbach's alpha 0.745 and, 10 items in 5 point Likert scale style (1 Absolutely disagree to 5 Absolutely agree, also there is reverse rating) which ask the exposure of medical students to gifts by receiving/ participating on events with appropriateness rating, and another to items which ask the question whether gift influence their own and/or other physician prescribing decision. Part IV consists four items which measure attitude toward detailing by PSRs 5 point Likert scale style (1 very weak to 5 very good) adopted from Mikhael et al. (2014) with cronbach's alpha 0.721 and 2 items about the benefit of the detailing for physician and patient. Finally part consists 4 items which measure attitude toward sample drug adopted from Shahu Ingole et al (2011) with cronbach's alpha 0.783.

The questionnaires adopted without language translation but the final tool was checked with 5 students' pilot test and minor correction was performed (correcting age group, inserting full text for abbreviations were not known by students).

3.3. Procedure of Data Collection

Self-administered survey questionnaires were distributed to all internship from undergraduate students and all postgraduate students had attachment in the St. Paul Hospital on the month of February/2015. This was done before and after morning meeting after getting the consent from both department heads and the students. Students from Radiology department were not included because they are not prescribing medicine. From the total of 148 students only 125 (84%) were filled and return the questionnaire.

3.4. Data Analysis Techniques

The data from the survey was entered and all analyses then performed with the Statistical Package for the Social Sciences (SPSS version 20). Descriptive analysis used to organize and summarize the demographic data of the respondent which include age, gender, educational level, department type, University/college students studied, and the responses of items of the questionnaires. By considering gender, and level of education as the independent variable and overall attitude level as the dependent variables, Independent sample t-test was performed to assess the mean score difference between (male and female) and (internships and residents) respectively. By considering age as the independent variable and overall attitude level as the dependent variables, one-way variance (ANOVA) was performed. Post hoc test was employed to further examine that which group mean is different.

3.5. Scope and Limitation

This study focused on assessment of undergraduate and postgraduate medical students' attitudes towards promotional effort by Pharmaceutical Sales Representatives (PSRs) those had attachment practice in St. Paul Hospital Millennium Medical College (SPHMMC) on month of February/2015 during the school year 2014-2015. It is directed towards examining whether medical students attitude towards detailing, sample drugs, promotional gifts from pharmaceutical industry and attitudes towards PSRs is favorable or not due to

large amount of money invested by pharmaceutical companies for promotion. It is also directed at finding out which demographic variable among; gender, age, and education level, affects attitude of medical students toward pharmaceutical promotional efforts.

The limitations of this study has been the data collection was performed at single site, this is because to conduct research in health facilities it needs the approval of IRRB of each hospital (for federal hospitals) and regional health bureaus. Money and time was other constraints of this study because the investigator covered all the expenses needed for conducting this study.

CHAPTER IV

FINDINGS AND DISCUSSIONS

4.1. Descriptive analysis of the Study

❖ Demographics characteristics

The study focused on both undergraduate and postgraduate medical students those start prescribing medicines to patients in the setting of St. Paul Hospital. For the analysis, the medical students were categorized with five demographic variables; gender, age, education level, department, and University/College. About 62.4% of the respondents were males and 37.6% were female. The total of the respondents categorized into three age groups, 42.4% were 20-25yrs, 48.0% were 26-30yrs, and 9.6% were 31-35years. None of the respondents were found under 20years age and above 36 years of age. The residents take larger portion (52.8%) than the Internships (47.2%). From total number of residents respond for this survey were Pediatrics (22.72%), Internal Medicine (31.82), Obstetrics/Gynecology (28.78%), and Surgery (16.67%). The majority (56%) was students of SPHMMC, and 28.8% and 15.2% were students of Addis Ababa University and Defense Health Science College respectively. The following tables (Table 1& 2) and figures (Fig. 1 &2) depict the descriptive data of the medical students based on the above demographic variables.

Table 1 Gender of respondents'

| | Frequency | Percent | Valid Percent | Cumulative Percent |
|--------------|-----------|---------|---------------|--------------------|
| Male | 78 | 62.4 | 62.4 | 62.4 |
| Valid Female | 47 | 37.6 | 37.6 | 100.0 |
| Total | 125 | 100.0 | 100.0 | |

Table 2 Age of respondents'

| | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|-----------|---------|---------------|--------------------|
| Valid | 20-25 | 53 | 42.4 | 42.4 |
| | 26-30 | 60 | 48 | 90.4 |
| | 31-35 | 12 | 9.6 | 100 |
| | Total | 125 | 100 | 100 |

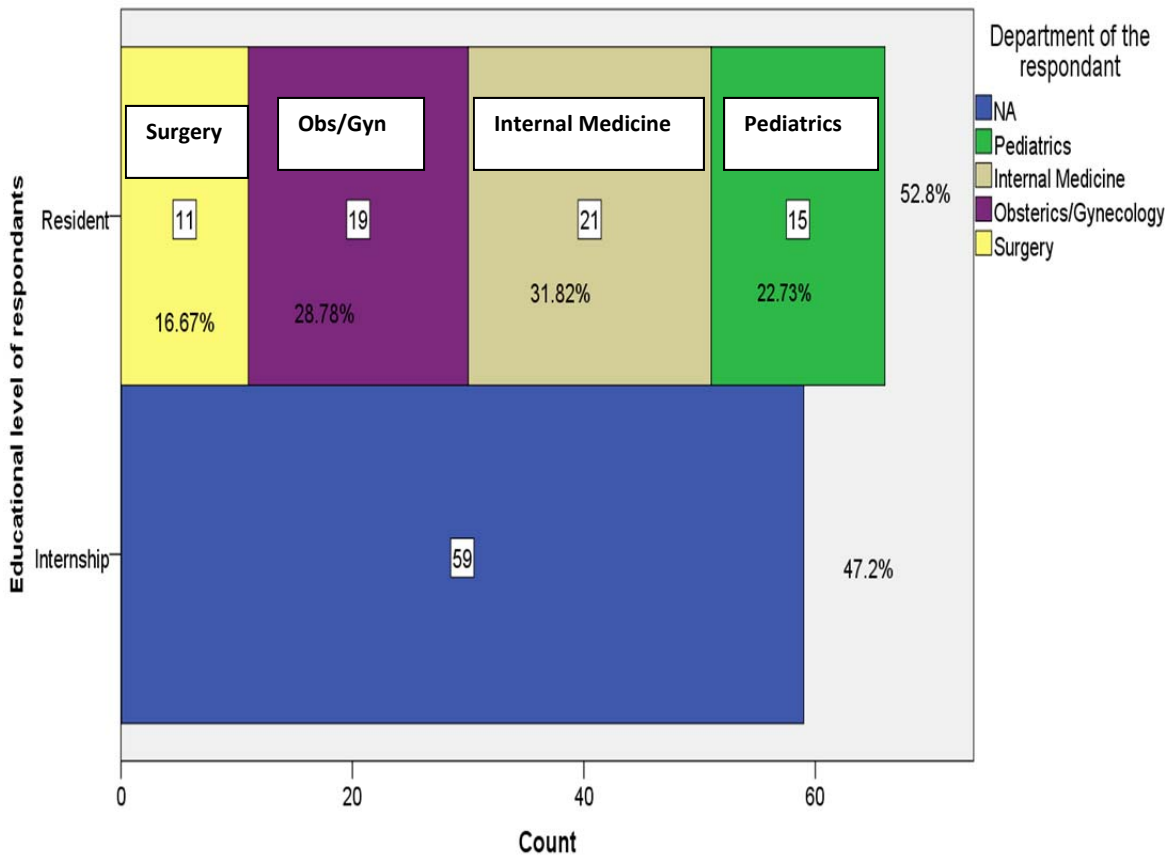


Figure 2 Educational level and Department of the Respondents

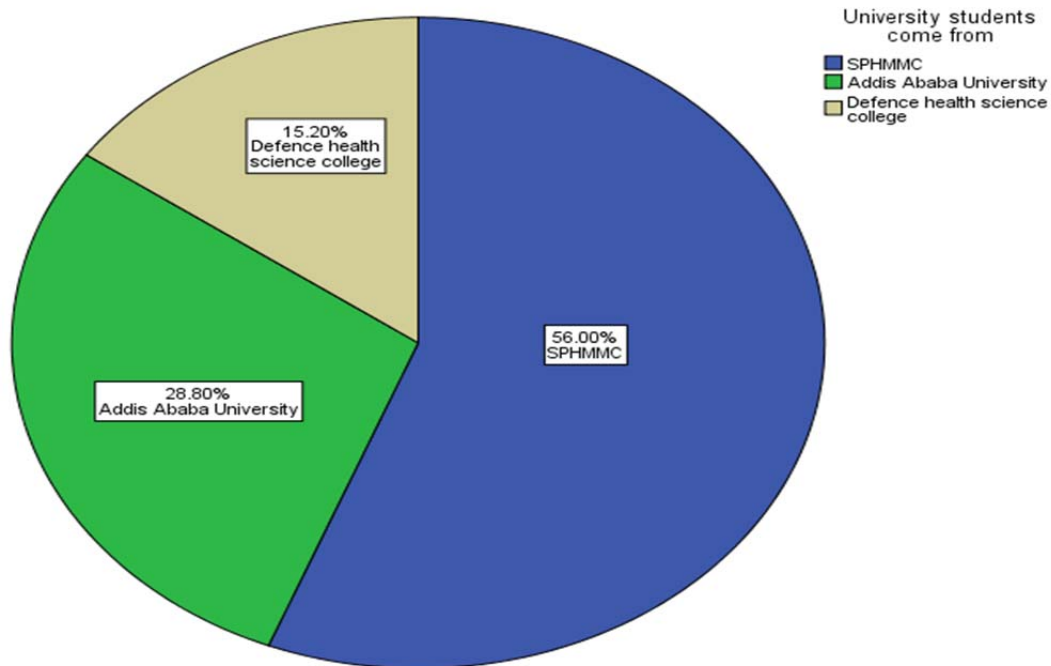


Figure 3 Percentage of Respondents University/College students come from

❖ **Descriptive analysis on item to measure Attitude towards PSRs**

Medical students' responses to item to measure Attitude towards PSRs were reported as percentages of those surveyed who absolutely agreed, agree, neutral, disagree, and absolutely disagree on table 3 and mean of each of the items in table 4.

- For the statement 'PSRs provide accurate and useful information about drugs' 61% of the respondents positively agree with the statement and 19% neutral and the remaining 20% negatively agree with the statement. Majority of the students positively agree with the statements: PSRs use marketing techniques in their interactions with physicians (78%), I believe that PSRs, I met, were competent professionally and in their communication skill (52%), an educator that works in my institution should participate as an observer in all presentations made by PSRs (52%), I would keep my relationship with PSRs on the same level, even without the promotional activities, including social gatherings for dinner (65%).

Table 3 Percentage responded of each item to measure attitude towards PSRs by agreement Scale

| Items | Absolutely disagree | Disagree | Neutral | Agree | Absolutely Agree | Total |
|--|---------------------|----------|---------|-------|------------------|-------|
| PSRs provide accurate and useful information about drugs | 1.6 | 18.4 | 19.2 | 53.6 | 7.2 | 100 |
| Interactions with PSRs Don't influence Physicians' prescribing behavior | 1.6 | 43.2 | 31.2 | 18.4 | 5.6 | 100 |
| PSRs took over an important educational role in my institution | 20.0 | 28.8 | 8.8 | 2.4 | 40.0 | 100 |
| PSRs use marketing techniques in their interactions with physicians | 0.0 | .8 | 21.6 | 60.0 | 17.6 | 100 |
| I believe that PSRs, I met, were competent professionally and in their communication skill | 0.0 | 10.4 | 37.6 | 41.6 | 10.4 | 100 |
| Presentations made by PSRs should be forbidden in my institution | 0.0 | 51.2 | 27.2 | 12.8 | 8.8 | 100 |
| An educator that works in my institution should participate as an observer in all presentations made by PSRs | 0.0 | 15.2 | 33.0 | 36.6 | 15.2 | 100 |
| I would keep my relationship with PSRs on the same level, even without the promotional activities, including social gatherings for dinner | 0.0 | 4.8 | 30.4 | 52.0 | 12.8 | 100 |
| Interactions with PSRs don't influence my prescribing practice | 7.2 | 44.0 | 12.0 | 29.6 | 7.2 | 100 |
| PSR Promotional activities don't influence my prescribing practice. | 0.8 | 46.4 | 19.2 | 28 | 5.6 | 100 |

- For other statements the majority of the students negatively agree with statements. For statements: PSRs took over an important educational role in my institution (49%), Presentations made by PSRs should be forbidden in my institution (51%), and interactions with PSRs don't influence my prescribing practice (49%), and PSR Promotional activities don't influence my prescribing practice (47%).
- The highest mean score given to the statement I would keep my relationship with PSRs on the same level, even without the promotional activities,

including social gatherings for dinner (3.73) and the second mean score given to the statement I believe that PSRs, I met, were competent professionally and in their communication skill (3.52). The least mean score given to the statement PSRs use marketing techniques in their interactions with physicians (2.06) but for this statement the rating was reversed, 1 given for absolutely agree and 5 for absolutely disagree.

Table 4 Means of the respondents' response to items to measure attitude towards PSRs

| Items to Measure Attitude towards PSRs | N | Mean | Std. Deviation |
|--|----------|-------------|-----------------------|
| PSRs provide accurate and useful information about drugs | 125 | 3.46 | .929 |
| Interactions with PSRs Don't influence Physicians' prescribing behavior | 125 | 2.83 | .940 |
| PSRs took over an important educational role in my institution | 125 | 3.22 | .947 |
| PSRs use marketing techniques in their interactions with physicians | 125 | 2.06 | .651 |
| I believe that PSRs, I met, were competent professionally and in their communication skill | 125 | 3.52 | .819 |
| Presentations made by PSRs should be forbidden in my institution | 125 | 3.21 | .978 |
| An educator that works in my institution should participate as an observer in all presentations made by PSRs | 125 | 2.51 | .930 |
| I would keep my relationship with PSRs on the same level, even without the promotional activities, including social gatherings for dinner | 125 | 3.73 | .745 |
| Interactions with PSRs don't influence my prescribing practice | 125 | 2.86 | 1.141 |
| PSR Promotional activities don't influence my prescribing practice. | 125 | 2.91 | 1.000 |
| Valid N (list wise) | 125 | | |

The mean of the dependent variable attitude of students toward PSRs shown on tables below (Table 5-7) based on the demographic variables. The mean score between male respondents and female respondents are different. The mean score of male respondents is 3.0872 which above the neutral point and in the range of positive attitude. The mean score of female respondents is 2.9362 which.

Table 5 Medical Students' attitudes toward PSRs * Gender

| Sex of Respondents | Mean | N | Std. Deviation |
|--------------------|--------|-----|----------------|
| Male | 3.0872 | 78 | .44499 |
| Female | 2.9362 | 47 | .35474 |
| Total | 3.0304 | 125 | .41837 |

The mean score between different age group respondents are also different. The mean score of youngest respondents (20-25) is 2.9362 which below the neutral point and in the range of negative attitude. The mean score of age groups 26-30 and 31-35 are above the neutral point and in the range of positive attitude 3.0333 and 3.4750 respectively.

Table 6 Medical students' attitude toward PSRs * Age

| Age of Respondents | Mean | N | Std. Deviation |
|--------------------|--------|-----|----------------|
| 20-25 | 2.9264 | 53 | .26250 |
| 26-30 | 3.0333 | 60 | .49768 |
| 31-35 | 3.4750 | 12 | .22613 |
| Total | 3.0304 | 125 | .41837 |

The mean score of both internships and residents are above the neutral point and in the range of positive attitude 3.0169 and 3.0424 respectively.

Table 7 Medical students' attitudes toward PSRs * Educational level

| Educational level of Respondents | Mean | N | Std. Deviation |
|----------------------------------|--------|-----|----------------|
| Internship | 3.0169 | 59 | .41488 |
| Resident | 3.0424 | 66 | .42429 |
| Total | 3.0304 | 125 | .41837 |

❖ **Descriptive analysis on item to measure Attitude towards Gifts**

Descriptive analysis was performed for dependent variable medical students' Attitude towards Gifts in relation to demographic characteristics of the respondents as depicted on table 8. The average attitudes toward gift level of both male and female respondents are below the neutral point and in negative attitude range. However the females' attitude little bit above the males' attitude level 2.80 and 2.76 respectively.

Table 8 Medical students' attitudes toward the gifts* gender* age* educational level

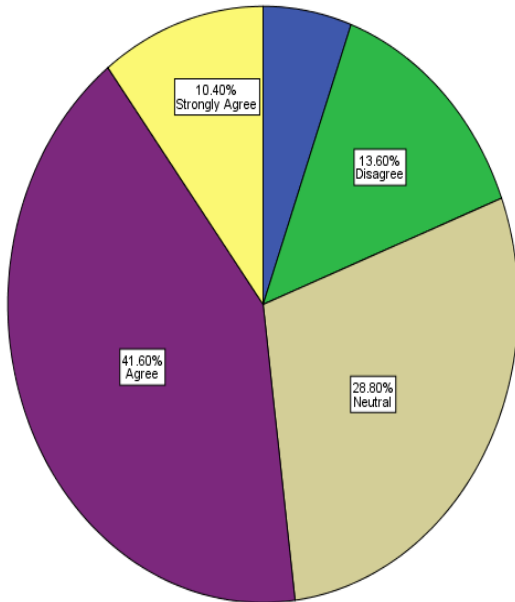
| Medical Students' Attitudes toward the gifts * sex of respondents | | |
|--|--------|----------------|
| sex of respondents | Mean | Std. Deviation |
| Male | 2.7641 | .73837 |
| Female | 2.8000 | .63657 |
| Total | 2.7776 | .69941 |
| Medical Students' Attitudes toward the gifts * Age of respondents | | |
| Age of respondents | Mean | Std. Deviation |
| 20-25 | 2.9170 | .60311 |
| 26-30 | 2.6800 | .81445 |
| 31-35 | 2.6500 | .27136 |
| Total | 2.7776 | .69941 |
| Medical Students' Attitudes toward the gifts * Educational level of respondents | | |
| Educational level of respondents | Mean | Std. Deviation |
| Internship | 2.7017 | .80719 |
| Resident | 2.8455 | .58472 |
| Total | 2.7776 | .69941 |

Table eight shows the average attitude score by age group, the youngest group (20-25) has the highest average score 2.91 and from educational level category residents have the high average score compared to the internships. Table nine also present Percentages of respondents receives gifts /participates in event and those rate receiving gift or participate in event as appropriate/ not appropriate. The most accepted gifts by the students are drug sample for patients & office supplies (pen, cup, notebook, etc.) both received by 62% of the student and none of the students participate and/or receive both social gathering for dinner in a restaurant and airline ticket to vacation spot. 94% of the students' rate that it is appropriate to receive drug sample for patients and 59 % rate that it is not appropriate to receive airline ticket to vacation spot form pharmaceutical company.

Table 9 Percentage of students receives gifts/ participates on event and their rating of gift/event appropriateness

| Items | Receive/participate | | Appropriateness of gift/event | |
|---|---------------------|------|-------------------------------|-----------------|
| | Yes | No | Appropriate | Not-Appropriate |
| Drug sample for patients | 62% | 37% | 94% | 6% |
| Medical textbook | 6% | 94% | 77% | 14% |
| Medical pocket book | 14% | 86% | 85% | 6% |
| Office supplies (pen, cup, notebook, etc.) | 62% | 38% | 89% | 7% |
| Paid for trip to an educational conference | 2% | 98% | 63% | 30% |
| Educational meeting with dinner | 16% | 84% | 51% | 33% |
| Educational meeting with lunch (Pizza, etc.) | 22% | 78% | 62% | 34% |
| Drug sample for individual use | 17% | 83% | 32% | 49% |
| Social gathering for dinner in a restaurant | 0% | 100% | 17% | 49% |
| Airline ticket to vacation spot | 0% | 100% | 19% | 59% |

In my opinion, If five drugs from five different companies are identical in terms of price, efficacy and effectiveness. Other physician would preferentially prescribe a drug from one of the companies that provided them any gifts or incentives over those



Five drugs from five different companies are identical in terms of price, efficacy and effectiveness. I would preferentially prescribe a drug from one of the companies that provided me any gifts or incentives over those from companies that did not.

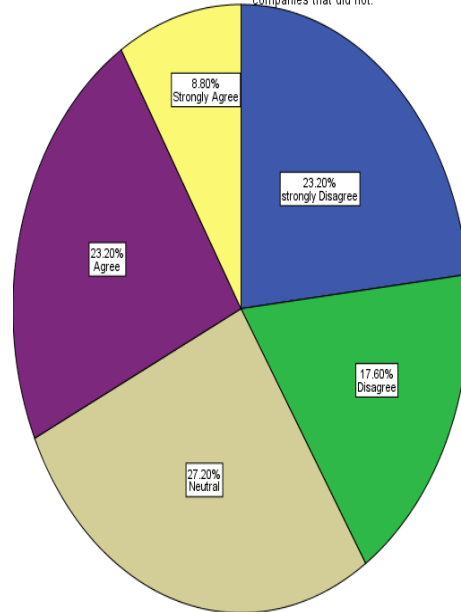


Figure 4 the effect of gift on prescribing behavior of the physician

For the questions asking the influence of gift on physician prescribing behavior:

- Influence on own prescribing decision 40% disagreed, 27% neutral, and 32% of the respondents admit the influence.
- Influence on others physicians prescribing behavior 19% disagree, 29% neutral, and 52% believe that gift influence others prescribing decision.

❖ **Descriptive analysis on item to measure Attitude towards Detailing**

Table ten shows that the mean score of Medical Students' Attitudes toward Detailing of different group based on demographic characteristics. The mean score of attitude to detailing of both male and female is almost the same 3.55 & 3.54 respectively. Under age category and educational level we can observe that there is slight difference in mean score of different groups. 20-25yrs age (3.4), 26-30yrs age (3.6), 31-35yrs age (3.8), and Internship (3.5) and Resident (3.59). (3.55) is the mean score of overall attitude level Medical Students' hold toward detailing.

Table 10 Mean score of medical students' attitudes toward detailing by demographic characteristics

| Sex of Respondents | Medical Students' Attitudes toward Detailing | |
|----------------------------------|--|--|
| Male | 3.55 | } Medical Students' Attitudes toward Detailing * Gender |
| Female | 3.54 | |
| Age of Respondents | | } Medical Students' Attitudes toward Detailing * Age |
| 20-25 | 3.4 | |
| 26-30 | 3.6 | |
| 31-35 | 3.8 | |
| Educational level of Respondents | | } Medical Students' Attitudes toward Detailing * Educational Level |
| Internship | 3.50 | |
| Resident | 3.59 | |
| Total | 3.55 | |

The following figure (fig.4) depicted the percentage of respondents rating of the benefit of detailing for physician and patient.

- 22% rate (very low and low), 12% moderate, and 66% rate as (high and vary high) the benefit of detailing for the physician.
- 18% rate (very low and low), 24% moderate, and 58% rate as (high and vary high) the benefit of detailing for the patient.

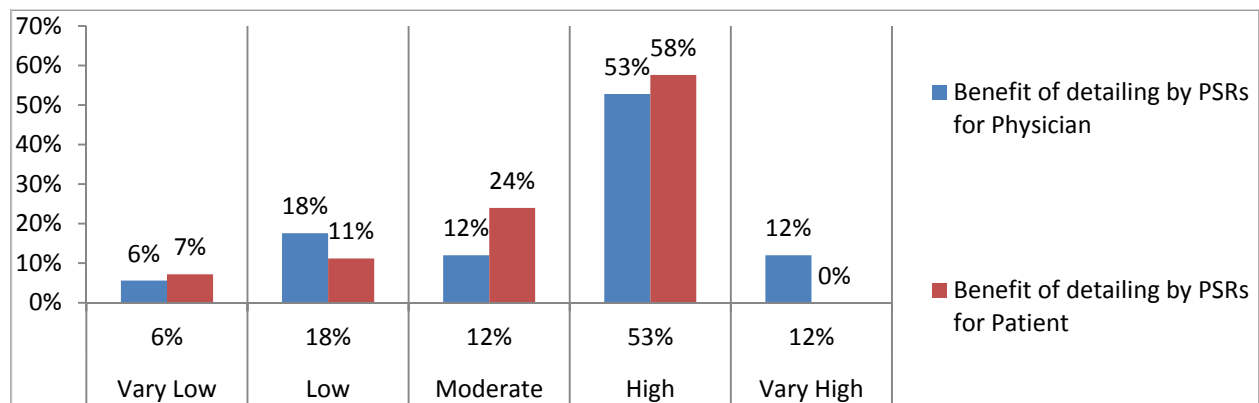


Figure 5 Percentage of respondents rating the benefit of detailing (drug information) by PSRs for physicians and patients

❖ **Descriptive analysis on item to measure Attitude towards Sample drug**

The table below show that the mean score of Medical Students' Attitudes toward sample drugs of different group based on demographic characteristics. The mean score of attitude to sample drug of male and female is different 3.66 & 3.21 respectively. The average score of attitude to sample drug increase, though it gets up though age level. 20-25yrs age (3.4198), 26-30yrs age (3.5042), 31-35yrs age (3.75), and Internship (3.4619) and Resident (3.5189). (3.4920) is the mean score of overall attitude level Medical Students' hold toward sample drugs.

Table 11 Medical students' average attitude score toward sample drug by demographic characteristics

| Medical students' attitudes toward Sample Drugs *sex of respondents Drugs | | | |
|---|--------|-----|----------------|
| sex of respondents | Mean | N | Std. Deviation |
| Male | 3.6603 | 78 | .58245 |
| Female | 3.2128 | 47 | .51862 |
| Total | 3.4920 | 125 | .59816 |
| Medical students' attitudes toward Sample Drugs * Age of respondents | | | |
| Age of respondents | Mean | N | Std. Deviation |
| 20-25 | 3.4198 | 53 | .63506 |
| 26-30 | 3.5042 | 60 | .59924 |
| 31-35 | 3.7500 | 12 | .31980 |
| Total | 3.4920 | 125 | .59816 |
| Medical students' attitudes toward Sample Drugs * Educational level of respondents | | | |
| Educational level of respondents | Mean | N | Std. Deviation |
| Internship | 3.4619 | 59 | .64296 |
| Resident | 3.5189 | 66 | .55869 |
| Total | 3.4920 | 125 | .59816 |

The overall attitude of medical students' attitude towards pharmaceutical promotional activities illustrated on (fig 5)

- The average score of medical students' attitude toward PSRs is 3.03, and it is in positive attitude range.
- The average score of medical students' attitude toward the gift is 2.78, and it is in negative attitude range.
- The average score of medical students' attitude toward detailing is 3.55, and it is in positive attitude range.
- The average score of medical students' attitude toward PSRs is 3.49, and it is in positive attitude range.
- The overall average score of medical students' attitude toward pharmaceutical promotion is 3.20, and it is in positive attitude range

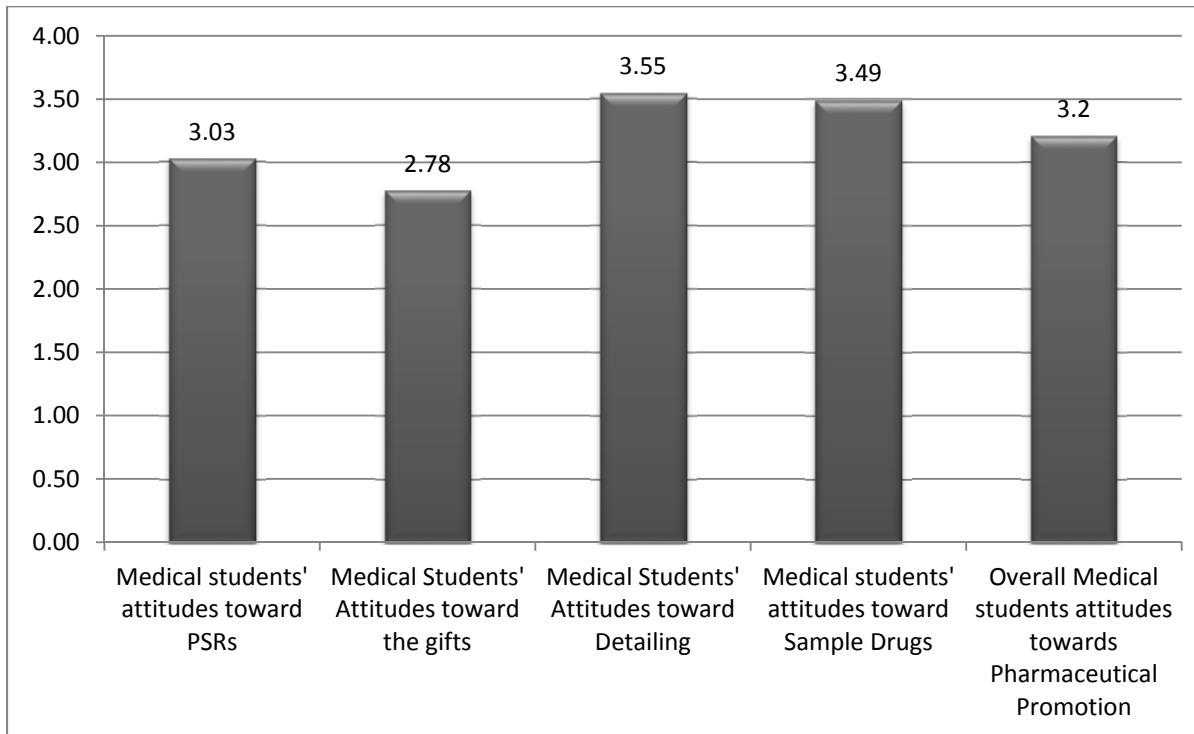


Figure 6 the overall attitude of medical students' attitude towards pharmaceutical promotional activities

4.2. Testing Hypotheses of the Study

The study uses Independent-sample t-test to analysis if significant difference between the mean attitudes scores of (Male and Female students) and (Internships and Residents). And one-way ANOVO to analysis if significant difference between the mean attitudes scores of different age groups.

The hypotheses are stated as follows:

H₁: There is significant difference between the means of the male student's attitude score and female students' attitude mean score.

H₂: There is significant difference between the means of the internships' attitude score and residents' attitude score.

H₃: At least one of the means of students' attitude score difference within the age groups (20-25yrs, 26-30yrs, and 31-35yrs).

❖ Comparison of average attitude score between male and female respondents

The first hypothesis states that there is significant difference between the means of the male student's attitude score and female students' attitude mean score. To test this hypothesis, the independent sample t-test was conducted for the means of the two categories in the variable Gender.

Ho: There is no significant difference between the means of the male student's attitude score and female students' attitude mean score.

Ha: There is significant difference between the means of the male student's attitudes score and female students' attitudes mean score.

Group Statistics

| | Sex of Respondents | N | Mean | Std. Deviation | Std. Error Mean |
|---------------------------------|--------------------|----|--------|----------------|-----------------|
| Overall students attitude level | Male | 78 | 3.2649 | .27921 | .03161 |
| | Female | 47 | 3.1229 | .30440 | .04440 |

Table 12 Independent Samples Test of equality of attitude means score of male and female medical students

| | | Levene's Test for Equality of Variances | | t-test for Equality of Means | | | | | | |
|---------------------------------|-----------------------------|---|-------|------------------------------|--------|-----------------|-----------------|-----------------------|---|---------|
| | | F | Sig. | t | df | Sig. (2-tailed) | Mean Difference | Std. Error Difference | 95% Confidence Interval of the Difference | |
| | | | | | | | | | Lower | Upper |
| Overall students attitude level | Equal variances assumed | 0.027 | 0.869 | 2.663 | 123 | 0.009 | 0.14203 | 0.05334 | 0.03644 | 0.24762 |
| | Equal variances not assumed | | | 2.606 | 90.559 | 0.011 | 0.14203 | 0.05451 | | 0.03375 |

The calculated t value (2.663) greater than the critical value (1.9794 when a two tail test), which is the rejection area. Therefore, according to the test result, the null hypothesis is rejected and the alternative hypothesis is accepted, that states there is significant difference between the means of the male student's attitudes score and female students' attitudes mean score. The confidence interval for the difference between the two groups' means is (0.03644 to 0.23762). The interval does not include zero, this again indicates that there is a significant difference between the means of the attitude level of the male students and the female students.

❖ Comparison of average attitude score between Internships and Residents

The second hypothesis states that there is significant difference between the means of the Internship's attitude score and Residents' attitude mean score. To test this hypothesis, the independent sample t-test was conducted for the means of the two categories in the variable Educational Level.

Ho: There is no significant difference between the means of the Internships' attitude score and Residents' attitude mean score.

Ha: There is significant difference between the means of the Internships' attitudes score and Residents' attitudes mean score.

Group Statistics

| | Educational level of Respondents | N | Mean | Std. Deviation | Std. Error Mean |
|------------------|----------------------------------|----|--------|----------------|-----------------|
| Overall students | Internship | 59 | 3.1691 | .33773 | .04397 |
| attitude level | Resident | 66 | 3.2494 | .24930 | .03069 |

Table 13 Independent Samples Test equality of attitude mean score of Internships & Residents

| | | Levene's Test for Equality of Variances | | t-test for Equality of Means | | | | | | |
|---------------------------------|-----------------------------|---|------|------------------------------|---------|-----------------|-----------------|-----------------------|---|--------|
| | | F | Sig. | t | df | Sig. (2-tailed) | Mean Difference | Std. Error Difference | 95% Confidence Interval of the Difference | |
| | | | | | | | | | Lower | Upper |
| Overall students attitude level | Equal variances assumed | .847 | .359 | -1.524 | 123 | .130 | -.08036 | .05273 | -.18475 | .02402 |
| | Equal variances not assumed | | | -1.499 | 105.853 | .137 | -.08036 | .05362 | -.18667 | .02594 |

The calculated t value (-1.5240) less than the critical value (1.9794), when a two tail test is performed, which is the acceptance area of the distribution. The confidence interval for the difference of the means of the two groups is (-0.18475 to 0.02402), which is inclusive of 0. Therefore, the evidence fails to reject the null hypothesis.

❖ **Comparison of average attitude score between age groups**

The third hypothesis states that at least one of the means of students’ attitude score is different within the age groups (20-25yrs, 26-30yrs, and 31-35yrs). To test this hypothesis, the one way ANOVA was conducted for the means of the age group in the variable Age.

Ho: The means of students’ attitude score of the age groups (20-25yrs, 26-30yrs, and 31-35yrs) are the same.

Ha: At least one of the means of students’ attitude score is different within the age groups (20-25yrs, 26-30yrs, and 31-35yrs).

Table 14 ANOVA equality of attitude means score of age group

Overall students attitude level

| | Sum of Squares | df | Mean Square | F | Sig. |
|----------------|----------------|-----|-------------|-------|------|
| Between Groups | .549 | 2 | .274 | 3.246 | .042 |
| Within Groups | 10.308 | 122 | .084 | | |
| Total | 10.857 | 124 | | | |

The p-value is 0.042, which is less than the significance level of 0.05, so we reject the null hypothesis.

The null hypothesis is that the means of the three age groups were the same, but we reject that, so at least one age group has a different mean.

The ANOVA doesn’t tell which age is different, therefore post hoc tests was performed and determine that mean of age group 20-25yrs is different.

Table 15 Multiple Comparisons of mean of age group

Dependent Variable: Overall students attitude level

Dunnnett t (2-sided)

| (I) Age of Respondents | (J) Age of Respondents | Mean Difference (I-J) | Std. Error | Sig. | 95% Confidence Interval | |
|------------------------|------------------------|-----------------------|------------|------|-------------------------|-------------|
| | | | | | Lower Bound | Upper Bound |
| 20-25 | 31-35 | -.23667* | .09293 | .020 | -.4381 | -.0353 |
| 26-30 | 31-35 | -.19667 | .09192 | .053 | -.3959 | .0026 |

*. The mean difference is significant at the 0.05 level.

a. Dunnnett t-tests treat one group as a control, and compare all other groups against it.

CHAPTER V

CONCLUSION and RECOMMENDATION

5.1. Conclusion

The benefit of promotion is indispensable both for marketer and customer as it is to communicate product information between seller and buyer. And it is useless to say that without promotion newly developed treatment options are not easily communicated to prescribers and users. However, in pharmaceutical (medical) context it requires high ethical standards because decision maker (physician) and user (patient) are different, therefore pharmaceutical promotion may create conflict of interest. To avoid any conflict of interest and to act on medical ethics standards physicians became skeptical to pharmaceutical promotion and hold negative attitudes.

The study was conducted to assess the attitude of medical students toward pharmaceutical promotion. The analysis was performed to assess the overall attitudes of medical students toward pharmaceutical promotion and to each promotional activity (PSRs, Detailing, promotional gifts, and sample drug). The results show that the attitudes of medical students toward promotion are generally positive with mean score 3.2 just above the neutral point. Medical students' attitude toward PSRs (3.03), detailing (3.55) and sample drug (3.49) is positive but toward promotional gifts (2.78) is below neutral point which is negative.

The analysis of different subgroups depending on age, gender, and educational level reveals that different student groups have different mean attitude scores toward promotion except the group in educational level.

The study identifies that (62%) of students received drug samples for patient use and almost all (94%) rate drug sample for patient use as appropriate gifts.

Gender was found to be significantly affecting the attitude of medical students toward the promotion.

Therefore, from the study, it is understood that, however the overall attitude of medical students is in a positive attitude range it is not strong. The mean attitude score toward gift (2.78) and PSRs (3.03) which is below neutral point and equal to neutral point respectively are implications that the promotional strategy used by pharmaceutical companies needs critical evaluation.

5.2. Recommendations

The recommendation is heading for the pharmaceutical marketer, pharmaceutical sales representatives, and physician.

- ❖ Pharmaceutical marketers should work to change attitude of physicians for pharmaceutical promotion and make them have strong and positive attitude by design standardized, scientific, reliable, accurate, and ethical promotional activities. And continually assess the attitude of the physician toward the each of their promotional effort. Monitor their PSRs communication to ensure that it is up to standards rather than just look at sales generated. Because of the overall attitude toward pharmaceutical promotion is different between male and female groups and also different age groups marketers should design their approach accordingly.
- ❖ PSRs should act professionally and communicate unbiased scientific information. Their drug information should by balance to all needed information of the medicine like indication, side effect, contraindication, and so on. When approaching the physician they have to consider age and gender to act accordingly.
- ❖ Physician should consider the benefit of the pharmaceutical promotion as easily accessible, cheap, up-to-date, new information source without compromising their professional ethics.

Generally further studies needed on practicing physician both in public and private setting, the association between attitude and behavior in this context, factors of positive or negative attitudes by physician toward pharmaceutical promotion.

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Appendixes

Appendix A. Consent form

Consent Form for Participation in a Research Study AAU School of Commerce

Title of Study “Assessment of Undergraduate and Postgraduate Medical Students’ Attitudes towards Promotional Effort Pharmaceutical Sales Representatives in Ethiopia: A Case of St. Paul Hospital Millennium Medical College”

Description of the research and your participation

You are invited to participate in a research study conducted by Eyosias Degaga. The purpose of this research is to understand the attitude of the student to the pharmaceutical industry and recommend appropriate strategies. Your participation will involve fill the questionnaire and return to the investigator.

Risks and discomforts

There are no known risks associated with this research.

Potential benefits

There are no known benefits to you that would result from your participation in this research.

Protection of confidentiality

There is no means to identify the individual respondent. However I will do everything I can to protect your privacy and your identity will not be revealed in any publication resulting from this study.

Voluntary participation

Your participation in this research study is voluntary. You may choose not to participate and you may withdraw your consent to participate at any time. You will not be penalized in any way should you decide not to participate or to withdraw from this study.

Contact information

If you have any questions or concerns about this study or if any problems arise, please contact Eyosias Degaga at edegaga@et.pfscm.org or eyosias2jesus@gmail.com cell Phone 0922851696

Consent

I have read this consent form and have been given the opportunity to ask questions. I give my consent to participate in this study.

Participant’s signature _____ Date: _____

A copy of this consent form should be given to you.

Appendix B Questionnaire

1. General Demographic Data

1.1 Sex Male Female

1.2 Age 20-25 26-30 31-35 36-40

1.3 Educational Level Internship Resident

If you are Resident answer Q 1.3.1 and 1.3.2

1.3.1 Department Pediatrics Internal Medicine Obstetrics/Gynecology Surgery

1.3.2 Year of work experience _____ year (s) 1.4 University/ College _____

2. Attitude towards Pharmaceutical Sales Representatives (PSRs)

Please complete the following by ticking the appropriate box

| S.N | | Absolutely Agree | Agree | Neutral | Disagree | Absolutely Disagree |
|------|--|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| 2.1 | PSRs provide accurate and useful information about drugs. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 2.2 | Interactions with PSRs don't influence physicians' prescribing behavior. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 2.3 | PSRs took over an important educational role in my institution. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 2.4 | PSRs use marketing techniques in their interactions with physicians. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 2.5 | I believe that PSRs, I met, were competent professionally and in their communication skill | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 2.6 | Presentations made by PSRs should be forbidden in my institution. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 2.7 | An educator that works in my institution should participate as an observer in all presentations made by PRs. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 2.8 | I would keep my relationship with PSRs on the same level, even without the promotional activities, including social gatherings for dinner. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 2.9 | Interactions with PSRs don't influence my prescribing practice. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 2.10 | PSR promotional activities don't influence my prescribing practice. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

3. Attitudes of acceptability of gifts from pharmaceutical companies

3.1. Attitude towards appropriateness of accepting gifts

Please complete the following by ticking the appropriate box

| S.N | Parameter | Absolutely Agree | Agree | Neutral | Disagree | Absolutely Disagree |
|-------|---|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| 3.1.1 | Unacceptable for physician to receive gift | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 3.1.2 | I would feel comfortable accepting gifts | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 3.1.3 | It is appropriate to accept expensive gifts | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 3.1.4 | It is appropriate to accept moderate gifts | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 3.1.5 | It is appropriate to accept cheap gifts | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

3.2. Types of Gifts or Events accepted at least once and whether it is appropriate or not appropriate.

Please complete the following by ticking the appropriate box

| S.N | Type of Gift or Event | Did you ever received (Yes/No) | Appropriateness of receiving | |
|--------|---|------------------------------------|------------------------------|--------------------------|
| | | | Appropriate | Not-appropriate |
| 3.2.1 | Drug sample for patients | | <input type="checkbox"/> | <input type="checkbox"/> |
| 3.2.2 | Medical textbook | | <input type="checkbox"/> | <input type="checkbox"/> |
| 3.2.3 | Medical pocket book | | <input type="checkbox"/> | <input type="checkbox"/> |
| 3.2.4 | Office supplies (pen, cup, notebook, etc.) | | <input type="checkbox"/> | <input type="checkbox"/> |
| 3.2.5 | Paid for trip to an educational conference | | <input type="checkbox"/> | <input type="checkbox"/> |
| 3.2.6 | Educational meeting with dinner | | <input type="checkbox"/> | <input type="checkbox"/> |
| 3.2.7 | Educational meeting with lunch (pizza, etc.). | | <input type="checkbox"/> | <input type="checkbox"/> |
| 3.2.8 | Drug sample for individual use | | <input type="checkbox"/> | <input type="checkbox"/> |
| 3.2.9 | Social gathering for dinner in a restaurant | | <input type="checkbox"/> | <input type="checkbox"/> |
| 3.2.10 | Airline ticket to vacation spot | | <input type="checkbox"/> | <input type="checkbox"/> |

3.3. Five drugs from five different companies are identical in terms of price, efficacy and effectiveness.

I would preferentially prescribe a drug from one of the companies that provided me any gifts or incentives over those from companies that did not.

| | | | | |
|---|--------------------------------|----------------------------------|-----------------------------------|--|
| <input type="checkbox"/> Strongly Agree | <input type="checkbox"/> Agree | <input type="checkbox"/> Neutral | <input type="checkbox"/> Disagree | <input type="checkbox"/> Strongly Disagree |
|---|--------------------------------|----------------------------------|-----------------------------------|--|

3.4. In my opinion, if five drugs from five different companies are identical in terms of price, efficacy and effectiveness. Other physician would preferentially prescribe a drug from one of the companies that provided them any gifts or incentives over those from companies that did not.

| | | | | |
|---|--------------------------------|----------------------------------|-----------------------------------|--|
| <input type="checkbox"/> Strongly Agree | <input type="checkbox"/> Agree | <input type="checkbox"/> Neutral | <input type="checkbox"/> Disagree | <input type="checkbox"/> Strongly Disagree |
|---|--------------------------------|----------------------------------|-----------------------------------|--|

4. Attitudes towards Information from pharmaceutical (Detailing)

4.1. Reliability and accuracy of medical representatives' information about promoted drugs

| S.N | Parameter | Very Good | Good | Moderate | Weak | Very Weak |
|-------|---|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| 4.1.1 | Drug indication | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 4.1.2 | Drug side effects | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 4.1.3 | Drug contraindication | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 4.1.4 | Drug dosing and route of administration | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

4.2. Benefit from drug promotion information to the Physician & Patient

Please complete the following by ticking the appropriate box

| S.N | Parameter | Very High | High | Moderate | Low | Very Low |
|-------|----------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| 4.1.1 | Benefit to physician | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 4.1.2 | Benefit to patient | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

5. Attitudes towards Drug Samples

Please complete the following by ticking the appropriate box

| S.N | Parameter | Strongly Agree | Agree | Neutral | Disagree | Strongly Disagree |
|-----|--|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| 5.1 | Drug sample permit quicker of therapy | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 5.2 | Drug sample fulfill an educational role through demonstration | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 5.3 | Drug sample are a source of medication for patients who cannot afford them | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 5.4 | Drug samples serve to check the effectiveness of the medicine | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

Appendix C The result of Reliability Test

Scale: ALL VARIABLES (PSRs)

Case Processing Summary

| | | N | % |
|-------|-----------------------|-----|-------|
| Cases | Valid | 125 | 100.0 |
| | Excluded ^a | 0 | .0 |
| | Total | 125 | 100.0 |

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

| Cronbach's Alpha | N of Items |
|------------------|------------|
| .777 | 10 |

Scale: ALL VARIABLES (Gift)

Case Processing Summary

| | | N | % |
|-------|-----------------------|-----|-------|
| Cases | Valid | 125 | 100.0 |
| | Excluded ^a | 0 | .0 |
| | Total | 125 | 100.0 |

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

| Cronbach's Alpha | N of Items |
|------------------|------------|
| .745 | 5 |

Scale: ALL VARIABLES (Detailing)

Case Processing Summary

| | | N | % |
|-------|-----------------------|-----|-------|
| Cases | Valid | 125 | 100.0 |
| | Excluded ^a | 0 | .0 |
| | Total | 125 | 100.0 |

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

| Cronbach's Alpha | N of Items |
|------------------|------------|
| .721 | 4 |

Scale: ALL VARIABLES (Sample Drugs)

Case Processing Summary

| | | N | % |
|-------|-----------------------|-----|-------|
| Cases | Valid | 125 | 100.0 |
| | Excluded ^a | 0 | .0 |
| | Total | 125 | 100.0 |

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

| Cronbach's Alpha | N of Items |
|------------------|------------|
| .783 | 4 |