

ATTITUDE OF PHYSICIAN TOWARDS GIFT ACCEPTANCE FROM THE REPRESENTATIVES OF PHARMACEUTICAL COMPANY AND ITS IMPACT ON PRESCRIPTION PATTERN IN MALAYSIA

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ABSTRACT

According to WHO, it was estimated that half of the drugs prescribed, dispensed and sold are done in an improper way. The physicians accept various types of gift from pharmaceutical companies. This can influence physicians' prescribing pattern and result in early adoption to prescribe medications depending on promotional information. The effect of promotional activities especially gifts on the physicians' prescribing behavior was measured and the most effective promotional blend was identified. Promotional tools used by pharmaceutical companies were tested. The promotional tools which were more effective and influencing Malaysian physicians' counselling behavior were identified. The purpose of this study is to find the effect of gifts and promotion tools on the treatment pattern and the perception of health professionals regarding it in Malaysia. In this study, a clear impact of low cost and high cost gifts on the physician's counselling behavior is found. It can also be concluded that physicians are not aware of the impact that industry's marketing activities have on their behavior.

Keywords: *Physician Prescription Behavior, Gifts, Pharmaceutical Marketing, Promotional Tools*

INTRODUCTION

The prescription of the physicians decides the kind of drugs that the patients will be using. So, influencing the physician's perception towards a particular brand plays a vital role in the sales of pharmaceutical industry. As documented by Arora and Taneja, (2006) the pharmaceutical companies try to influence prescription pattern of doctors in their favor by offering various kinds of promotional inputs like samples, gifts and sponsorships. In a study by Ziegler, Lew and Singer, (1995) it has been noted that medical professionals interact with pharmaceutical representatives from their medical school and that physicians and pharmaceutical sales representatives (PSRs) meet about 4 times a month.

A study by (Madhavan *et al.*, 1997) found out that physicians received trinkets (77.4%), books (41.7%) and meals (41%) respectively in West Virginia. It also indicated that the physicians have some inclination towards pharmaceutical companies which give gifts, moderately disagreed that they do so as a form of professional recognition of physicians and strongly disagreed that their prescribing behavior could be influenced by the gifts. There are also evidences which claim that sponsoring of vacations can also affect the

physicians prescribing behavior.

The last century has been phenomenal for the field of science and technology which includes medicine. The noble traditions of medical profession have gone through some major changes because of strong financial and economic reasons. The number of physicians and medical institutions has increased substantially in the last century which has led to more competition among various groups and individuals. Many researchers suggest that the modern day ethical problems have risen due to the stiff competition and a decline in the society's moral and ethical values. The acceptance of various types of gifts from pharmaceutical companies can influence physician counselling pattern and result in early adoption to prescribe newly medications which depends on the promotional information even in absence of clinical evidence about the drug effectiveness or side effects and it may result in an undesirable outcomes to the patient as suggested by (Mikhael *et al.*, 2014).

According to Sandberg *et al.*, (1997) the gifts have a positive influence regarding the pharmaceutical firms. Lurie *et al.*, (1990) found that there is an increase in the number of prescription for a pharmaceutical firm after physicians meet with sales representatives, attend conferences and accept gifts. The situation of gifts has

been so intense that the American Medical Association (AMA) has also issued ethical guidelines for gifts to physicians from industry.

Background of the Study

Physicians are privileged with the right of recognizing the need of their patients and recommend medications for the well-being of their patients. Hence, the relation between the physician and pharmaceutical companies may create a conflict between the ethical professional interest of a doctor and his financial self-interest. The increase in incentives to attract the doctor's treatment behavior reflects as a rise in the price of prescribed medicines. The pharmaceuticals resort to many ways in marketing their product. Giving away gifts, free lunches, sponsoring education and holidays have all been criticized as inducements which compel a doctor to prescribe without scientific basis (Gönül *et al.*, 2001).

Though it is assumed that the pharmaceutical industry is based on the idea of an international nature, but the prescription writing behavior has a strong national character. Every country has its own structure of the pharmaceutical market and how the marketing is done. There has been little research that states the effect of pharmaceutical marketing has on the counselling behavior of physicians in Malaysia. The research compares information of already conducted research and will provide new prospective insights regarding influence, structure, and what are the various techniques used for pharmaceutical marketing. Research in this will contribute to a better understanding of pharmaceutical marketing especially gifts and its influence in the Malaysia. The purpose of this study is to find out the perception of receiving gifts and how it affects the prescribing pattern. This study not only aims towards the improvement of the quality of life of the Malaysians but also to investigate the extent to which pharmaceutical marketing has affected the process of healthcare in Malaysia, while focusing on healthcare professionals.

The results of the study revealed the influence of drug promotion by medical representatives on physician's drug prescription pattern and the role of gifts in influencing the physician. Physicians need to understand and admit to the fact that marketing should not influence them as they are professionals. The physicians must understand that accepting gifts is a way to make them familiar with the available products and not to

compromise their decision making in any way.

Previous Research

According to Chimonas *et al.*, (2007) it is very important to mention about gifts irrelevant of the price as the pharmaceutical company surely will add it to the cost of medication, which will have a negative economic consequence to the national budget especially in developing countries where medications are given freely to all the people who are treated in public hospitals.

A study by Ahmad *et al.*, (2011) identifies the most important ethical and legal problems faced in pharmaceutical marketing i.e. unethical pharmaceutical marketing and tried to find out the effect of receiving gifts on physicians, it has influence of perceptions regarding the importance of ethics and social responsibility on ethical intentions of marketing professionals. Furthermore, it investigated the effect of unethical marketing on ultimate consumer who is the patient.

In addition to it, a study by Parmar and Jalees (2004) also indicated that there is no proper way to control the promotion process between pharmaceutical companies and physician. Moreover, he concluded that the relationship between physician and marketers should be based on sincerity, which would be beneficial for the patients. These studies were very contemporary and were very helpful in formulating questions in the contemporary era.

Another study by Mikhael *et al.*, (2014) also answers the research question of gifts and prescription pattern. However, the study aimed at investigating the interaction between medical representatives (MRs) and Iraqi medical specialists and the influence of interaction between MRs and physician and its impact on physician's patterns of prescription. Furthermore, the interaction which most often results in acceptance of gifts whether can cause generation of interest for physicians that impact the behavior of physicians while making their prescriptions throughout the world.

Aside from being able to answer the research (Shamimulhaq *et al.*, 2014) study was selected to be reviewed since companies formulate marketing strategies which revolve around product, price and promotions to attract attention of physicians to prescribe certain brands. In addition, this study examines the factors, which influence the prescription

behavior of physicians.

The factors identified by Shamimulhaq *et al.*, (2014) that influences of the prescription behavior are latest addition of drugs in market, new prescription of drugs, conference sponsorship, promotional materials and samples of drugs by physicians. Sales persons promote their brands and influence heavily on how their products are marketed.

In a different study conducted by Ahmad, (2011) two factors identified that influenced physicians prescribe drugs to the patients were the physical response of the patient and the pharmaceutical companies' responses regarding gifts and special promotions for physicians endorsing and recommending the drugs.

According to Doran *et al.*, (2006), a study conducted in Australia gave an insight about the processes used by pharmaceutical companies to influence the physicians. The study also indicated regarding alliances between medical profession and pharmaceutical industry have become increasingly widespread in recent years. While there are clear benefits for doctors and their patients that derived from the medical profession working with the industry, concerns have been arisen that commercial imperative of industry may conflict with physicians' independence and professional integrity examine the factors that affect prescription writing behavior of physicians based on ethics. Furthermore, old trends are also changing in recent times with the changes that are happening with the modern technology. Online marketing and issues related to that is quickly changing the way sales are being monitored in pharmaceutical companies.

Hence it can be assumed that marketing and promotional activities may influence the physicians' decision regarding prescribing medication. Little information is available about means of the promotion of pharmaceuticals in all over the world especially in the developing countries as there is no documentation of the promotional practices, means and tools influencing doctors prescribing behaviors. Even globally we can find few studies that address the issue but in a very narrow and specific area of the scene.

According to Greene (2007) the appropriateness of marketing relationships between physicians and the pharmaceutical industry has been debated since 1960s. In a study by Grande (2007) in USA most physicians

(84%) reported that some form of relationship with the pharmaceutical companies involved receiving food in the workplace or receiving drug samples. In another study by Güldal and Şmin (2000) in Turkey it was found that pharmaceutical company representatives visited 90% of physicians at least once per week.

The response of the physicians was mixed in the sense that some found the pharmaceutical marketing was appropriate and was up to their expectations while others felt it was biased and information provided was not sufficient and was inappropriate. However, the physicians had the common perception that gifts and promotions cannot influence their prescription pattern. In a study by Steinman *et al.*, (2001) most physicians did not perceive themselves as biased but they did admit that conflicts of interest might compromise other physicians' decisions. Another study by McKinney *et al.*, (1990) of medical residents found that 61% reported that "promotions don't influence my practice," while only 16% believed the same about other physician's practices.

Moreover according to Oshikoya *et al.*, (2011) most physicians thought they were "immune" from being influenced by their interactions with PCRs. But the tool considered as the most effective for changing counselling behavior which were "common promotional gifts" for general practitioners and "scientific promotional tools" for consultants according to Siddiqi *et al.*, (2011).

According to Al-Areefi and Hassali, (2013) study, the physicians considered the medical representatives as "information providers". He also reported "beneficial patronage" and "financial support" as reasons to accept their visits and most physicians thought that they were immune from being influenced by their interactions with PSRs. Again, Siddiqi *et al.*, (2011) stated general practitioners perceived common promotional gifts as most effective tool for changing the prescribing behavior; while sponsorship and personal touch promotional tools are considered neutral and relatively least important while consultants perceived scientific promotional tools as most influencing in changing prescribing behaviors in comparison with other promotional tools; while sponsorships are least important.

According to WHO & HAI, (2008) pharmaceutical marketing is "activities focused on making physicians as well as the general public aware of new and existing

pharmaceutical brands, pharmaceutical marketing can include giveaway samples, detailed product literature, disease management programs, and support material for patients, internet initiatives, and events/meetings for physicians". It defines promotion as "all informational and persuasive activities by manufacturers and distributors, the effect of which is to induce prescription, supply, purchase and/or use of medicinal drugs".

According to Loh *et al.*, (2007) pharmaceutical companies are expected to maximize their profits; therefore they have an interest in influencing sales of medicines for example by providing medical practitioners with incentives to increase medicine consumption.

In a study by Duggan and Goyal, (2012) pharmaceutical companies promote their product through their MRs by using drug sample, printed product literature and gifts that helps them to increase acceptability of their product. Zahrani, (2014) pointed out that different promotional strategies used by MRs in detailing their product and the quality of information provided in developing countries are poor compared to developed nations.

METHODOLOGY

Data for this research was collected through a questionnaire, which consisted of questions, some of which were open-ended, closed-ended as well as Likert scale. A sampling frame was selected this frame which included practicing physicians from hospitals and clinics. The number of sample was determined according to Krejcie and Morgan, (1970), the total estimated number of physicians in 2015 is 45000. Hence the ideal sample size is estimated to be 381. The sampling technique adopted for the study was simple random sampling.

Targeted Population

The research was carried out at hospitals and clinics in states of Kelantan, Selangor, Seremban and Federal Territory of Kuala Lumpur. The analysis of samples was done in Lincoln University College.

In all a total of 450 participants only 411 participants responded to whom the survey questionnaire was administered. The sample is made up of 221 males and 190 females who were taken up for the survey.

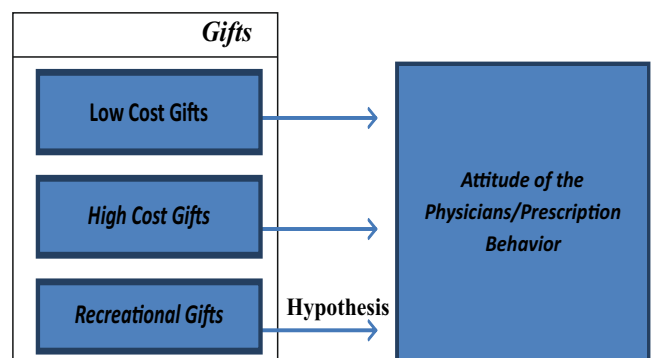
Statistical Tool & Technique

Regression technique was chosen to find out the results of the above objective of research. In this study, Multiple Regression Analysis was conducted to examine the hypotheses of the current study. First hypothesis is to examine the impact between low cost gifts and attitude of the physicians, second hypothesis is to examine the impact between high cost gifts and attitude of the physicians, and third hypothesis is to examine the impact between recreational gifts and attitude of the physicians.

Theoretical Framework

Independent Variables

Dependent Variable



H₁: Low cost gifts offered by pharmaceutical companies have significant impact on attitude of physicians.

H₂: High cost gifts offered by pharmaceutical companies have significant impact on attitude of physicians.

H₃: Recreational gifts offered by pharmaceutical companies have significant impact on attitude of physicians.

RESULTS & DISCUSSION

Table No 1: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.866a	0.751	0.749	0.37334

a. Predictors: Constant, Low cost gifts, High cost gifts are justifiable, High cost recreational gift are justifiable

b. Dependent Variable: Attitude

From the above table it can be concluded that *R* showing that relationship do exist in the chosen variables whereas *R*-square representing the amount of change occurs in dependent variable due to independent variables and finally the adjusted *R*-square 0.749 which is representing the strength of the relationship.

Table No 2: ANOVA

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	170.412	3	56.804	407.533	0.000b
	Residual	56.590	406	0.139		
	Total	227.002	409			

The above table predicts that the model is statistically significant because the sig value is less than 0.05.

Table No 3: Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	<i>t</i>	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	Constant	0.807	0.079		10.171	0.000		
	Low cost gifts	0.086	0.013	0.174	6.576	0.000	0.875	1.143
	High cost recreational gift is justifiable	0.029	0.032	0.038	0.904	0.367	0.339	2.950
	High cost gifts are justifiable	0.548	0.032	0.760	17.220	0.000	0.315	3.176

a. Dependent Variable: attitude

The value of *t stats* in the above table (Table 1) shows the significance dissimilar to its variable or regarding its variables in the model. Significance of every variable is presented by the value *P* in the table specified above.

Figure of low cost gifts and high cost gifts samples are under 0.05, which means that every variable has a significant impact on physician prescription behavior.

Whereas the variable figures of recreational gifts are more than 0.05, which shows that, it has an immaterial impact on physician prescription behavior. VIF values indicate the coefficient of multi-collinearity which means variables are identified with or having an association with one another.

The correlation coefficient between low cost gifts, recreational gifts and high cost gifts and attitude of the physicians reached 0.51. According to Salkind and Rainwater, (2003) the *R* value 0.866 indicates that there is significance with high correlation. Also, table 3 shows that only 75.0% of the *R*-square in attitude of the physicians is significantly explained by the dimensions of gifts. *F*-value reached 407.53 by Sig. 0.000, these indicate to there is a relationship between low cost gifts, recreational gifts and high cost gifts and attitude of the physicians. Since the observed significant value is 0.000, for low cost gifts and high cost gifts which is less than 0.05, then the study accepts *H*₁ and *H*₃. Whereas the observed significant value is 0.367, for recreational gifts which is more than 0.05, then the study fails to accept *H*₃ so, the regression test shows that there is a significant relationship between low cost gifts and high cost gifts and attitude of the physicians. But there is no significant relationship between recreational gifts and attitude of the physicians.

CONCLUSION

The main purpose of the present study is to analyze the relationship between gifts offered by pharmaceutical companies and its effect on the physician's attitude and the whether it has impact on the prescription pattern.

The first question was to determine the relationship between the low-cost gifts and the attitude of the physician. The main purpose of this objective was to clarify the relationship between the dimensions of low cost gifts that prevails within pharmaceutical companies in addition to dimensions that used from related studies. The result shows that, low cost gifts are found significant which clearly suggests an impact on the physician's prescription behavior. In a report by Othman *et al.*, (2015) , it also found that a correlation between low cost gifts and the attitude of the physician. According to the report even a single meal that costs less than \$ 20 can have effect on the attitude of the physician to prescribe a drug. The study found that doctors in U.S. were more inclined to prescribe drugs of the companies offering them meals compared to non-meal offering

companies. The second question was to determine the relationship between the high cost gifts and the attitude of the physician. The main purpose of this objective was to clarify the relationship between the dimensions of high cost gifts that prevails within pharmaceutical companies in addition to dimensions that used from related studies. The result shows that, high cost gifts are found significant which clearly suggests an impact on the physician's prescription behavior. Early studies have indicated that there exist relationship between high cost gifts and the attitude of the physician. Morgan *et al.*, (2006) in this very point argued that high cost gifts are inherently connected to rise in the price of drug for the patients. According to Katz *et al.*, (2010), the rise in the medical expenditure and the prescription drugs is a direct impact of expensive gifts offered to the physicians which leads to irrational drug use. The third question was to determine the impact of recreational gifts and the attitude of the physician. The purpose of this objective was to examine the impact of recreational gifts and the attitude of the physician. The result shows that, recreational gifts are found non-significant which clearly suggests no impact on the physician's prescription behavior. In a study by Bansal and Das, (2005) physicians believed that acceptance of expensive gifts of recreational value is unethical and not professional. However, according to Wazana, (2000), the recreational gifts can incline the behavior and the attitude of the physician towards the offering company.

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