



INFLUENTIAL FACTORS ON PRESCRIPTION; A CROSS SECTIONAL STUDY FROM BANGLADESH: FOCUS ON PHARMACEUTICAL MARKETING

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ABSTRACT

A physician's decision to adopt a drug is influenced by their exposure to other physicians' attitude, knowledge, or behavior. Quality of drug, efficacy of drug, pricing, status of the pharmaceutical company etc. more or less influence the physician to choose medication for patients. Pharmaceutical marketing is strong strategy to impact on prescription behavior. Because it is quite different from general marketing as the decision makers are the physicians not the patients, thus maximum marketing strategies are designed on focusing to them. This study explores the influence of pharmaceutical marketing on the prescription practices of physicians in Bangladesh.

A self-administered questionnaire was applied to collect data from 500 physicians all over the country. The main theme of the study is to develop a framework to find out the impact of different kinds of promotional tools offered by pharmaceutical companies on the prescription of physicians.

In this study it was found that prescription behavior of a physician greatly influenced by pharmaceutical marketing.

Skillful presentation, up to date information, maintaining good relation and free gift sample can boost up the brand in physicians prescription. The reflection and feedback of this research work is a complete picture of present Bangladesh.

Keywords Pharmaceutical Marketing; Physicians; Prescription; Promotional tools

INTRODUCTION

One of the most important roles of physician is prescribing because medication used most frequent to treat patient's illness. Prescription is an instruction written by physicians that authorize a patients to be issued with medicine or treatment. It is health care program that governs the plan of care for an individual patient and is implemented by a qualified practitioner. There are several things that come on the minds of a physician when they prescribe drug to the patients. Patients' consideration includes their age, sex, physical condition, socio-economical status etc. While choosing drugs for patients; its potency, efficacy, side effects, hypersensitivity,

drug-drug interaction also come into the mind of the physicians. Beside these factors some other influential factors also effect the prescription like pharmaceutical marketing.

In last few years the relation between the physicians and the pharmaceutical companies received considerable attention. Physicians have right of recognizing the need of their patients and recommended medication for the treatment of the patients. For this reason the relation between the pharmaceuticals and the physicians can create the conflict with his ethical professionalism. [1,2] Similar to other industries, the main objective of pharmaceutical marketing is to increase the profitability of the organization by accommodating the needs and wants of consumers. Whereas in the pharmaceutical marketing customers and the people who consumes falls in two different classes [3,4].

With worldwide revenues of approximately US\$ 1057.1 billion in 2014, pharmaceutical

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industries are known as world's largest industries. In Bangladesh it is the second largest industry in case of earning. The total size of the pharmaceutical market in Bangladesh on 2014 was about 1428.5 Million US\$. Bangladeshi pharmaceutical companies are poised for height growth over the next few years, driven by a multitude factor. Top Bangladeshi companies like Square Pharmaceuticals Ltd., Beximco Pharmaceuticals Ltd., Incepta Pharmaceuticals Ltd., and OpsoninPharma Ltd. etc. have already established their presence and some of them also got approval from US-FDA.

Every pharmaceutical company employs and trains specific personnel (medical representative, medical promotion officer, medical information officer etc.) to promote and sell drugs, using product promotional materials (printed product literatures, drug samples and gifts). The size of worldwide sales force of different companies ranges from 2,500 to 8,000. [5] In Bangladesh, an estimated 20,000 representatives are employed by the industry and the number has been increasing. Besides the salaries, they also receive incentives, increment in salaries, abroad tour, promotions for achievement of sales targets, which might tilt the balance in favor of aggressive drug promotion. While doctors uniformly deny that their understanding of drug is influenced by the activities of industry, there is considerable evidence to support the efficacy of the personal encounter with a medical representative in shaping doctors' attitude towards drugs. [6] In several study it also found that the pharmaceutical research and development expenditure is less than the promotion and marketing expenditure.[7]

Large industry gifts are considered as inducements while small gifts such as pens, paper weight, card holders are considered acceptable by many. Evidence from social science research suggested that gifts of negligible value can influence the behavior of the recipient and the recipient may not always remember this event [8,9]. More than 80% sales promotion personnel visit physicians on regular basis. Several studies revealed that sales personnel do not significantly affect a physician's prescription behavior [10]. One of the disadvantages of these studies, which depended on the responses of the physician's, is the possibility of "faking good bias" which is a tendency among responders to give socially desirable responses to questions relating to one's behavior [11].

However, increase expenditure for drug promotion will affect the price of prescription

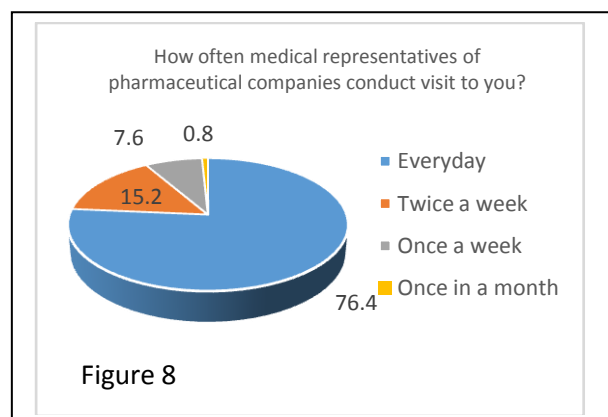
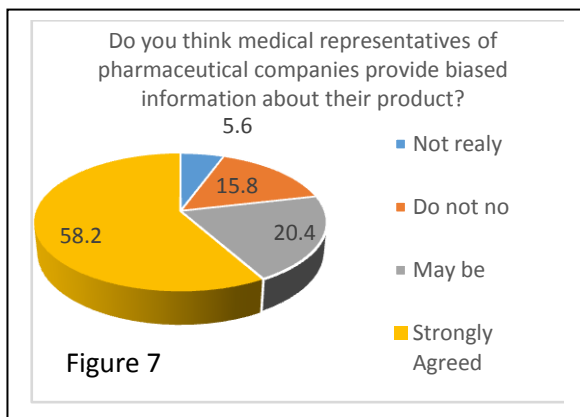
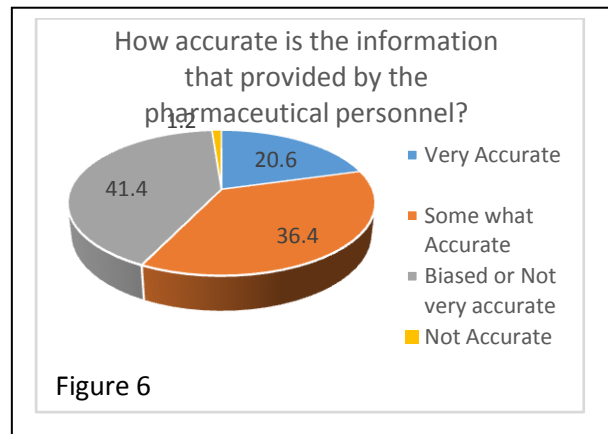
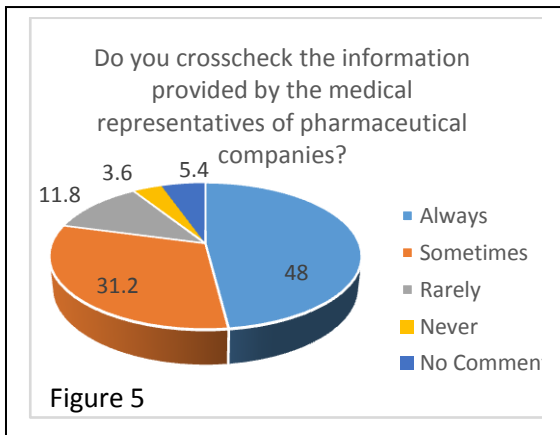
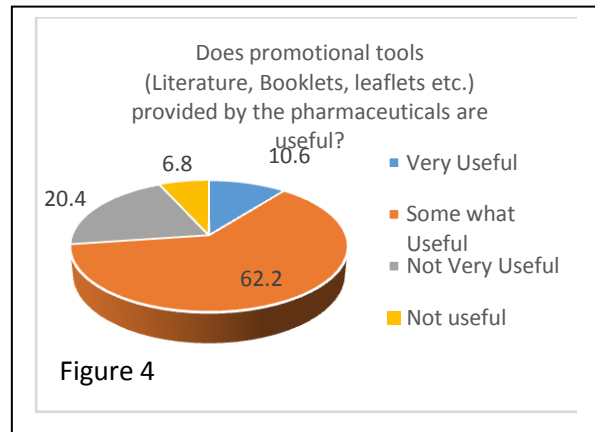
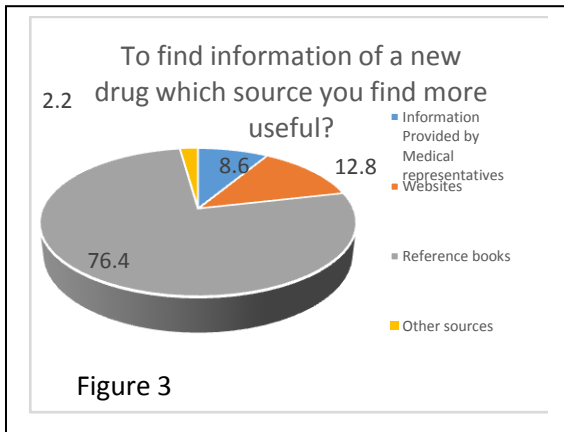
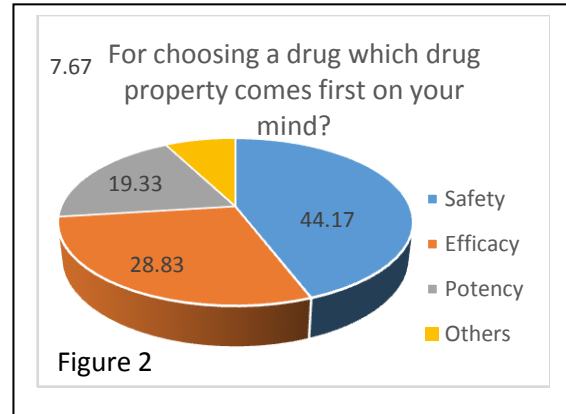
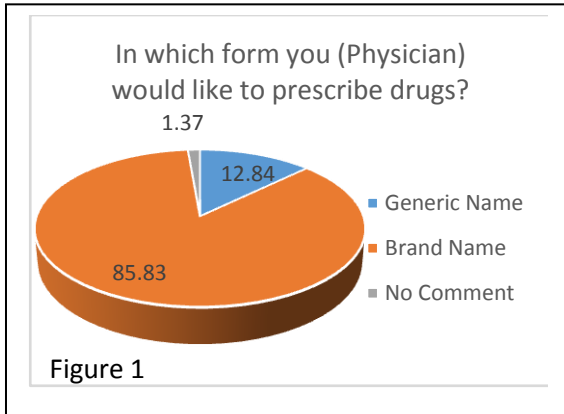
drugs and this in turn will have an adverse impact on the expenses on health care system. In Bangladesh same molecule are sold under different brand names. For example, Omeprazole, a proton pump inhibitor, molecule contain more than hundreds of brand names like Ometid (Opsonin Pharma), Prazole (Renata Pharma), Seclo (Square Pharma) etc.. How does a physician choose a brand among all? Which factors that influence the prescription behavior of the physicians? What is the influence of pharmaceutical marketing on prescription behavior? There are no recent published studies that have addressed the factors that influence the prescription behavior of physicians in Bangladesh. This study aims to identify that, how pharmaceutical marketing influence the prescription behavior of physicians in the choice of brands.

MATERIALS AND METHOD

A self-administered questionnaire was conducted to collect data from the study subjects. The study subjects were physicians. 3 types of physicians were included for the study, 1. General practitioners 2. Consultants 3. Specialists. The sampling of physicians were done by stratified sampling. 50 dedicated volunteers were involved for collecting data from 500 study subjects by face to face interview. After collecting the answers, the questionnaire was compiled together for further analysis. These physicians were divided by 3 groups; 350 General practitioners (holding MBBS or FCPS), 120 consultants (holding MD, MS or Diploma in special cases) and 30 specialists (holding DM or MCh degree). These physicians were from major cities of Bangladesh including Dhaka, Rajshahi, Chittagong, Sylhet, Rangpur, Mymensingh and Tangail. The variables representing the marketing methods of the pharmaceuticals were included in the questionnaire. To conduct this survey a schedule was made for the convenience of meeting with the physicians which is based on their time and availability. The survey was conducted between January and May, 2016.

Statistical analysis

All data collection and analysis were done very carefully. Experimental data were presented as percentage form in pie chart. For graphical analysis Microsoft Excel 2010 were used. For statistical evaluation free R-software version 2.15.1 were utilized. By using the *t*-test Significant differences (*P*-value<0.05) between the means were determined.



RESULTS AD DISCUSSION

Physician prescribing behavior is a very broad concept including various dimensions. According to the American Association adoption can be explained as a process that individuals and firms, in this specific case, physicians, go through when accepting new products. The different stages in the process of adoption include; new product awareness, gathering information, developing positive attitudes towards the product, testing it in some direct or indirect way, finding satisfaction in the trial and adopting the product into a standing usage or repurchase pattern. A physician's decision to adopt a drug is influenced by their exposure to other physicians' attitude, knowledge, or behavior. [12]

The majority of the physicians believed that information they receive from the drug company are useful to them but they also have doubt that information somehow is biased to their products. Almost all physicians receive perks from the sales personnel. The majority of the physician knew that these company personnel receive information about their prescription practice. However a few physician (6 out of 100) express discomfort while other express opposite view.

In response to the questions of, in which form you (physician) would like to prescribe drug, then almost 85% told they would like to prescribe drug in brand names and nearly 13% answered that they would like to stick with generic name in their prescription. (Figure 1) While choosing a drug most physicians focus on its safety (44.17%) rather than its efficacy (28.83%) and potency (19.33%). When we ask, "why safety?" then they replied patients safety their prime concern. So they choose those drugs which have minimum side effects. But some physician disagrees with these. They think in some condition drug safety comes after its potency and efficacy issue. (Figure 2)

For new drug information physicians rely mostly (76.4%) rely on the reference books. Some (12.8%) of them prefer websites and a few of them keeps belief on the information provided by the pharmaceutical companies. (Figure 3)

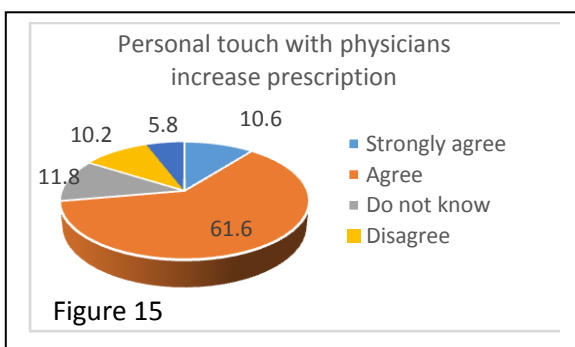
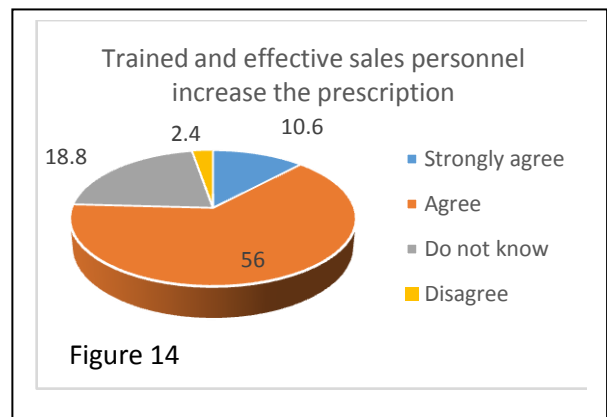
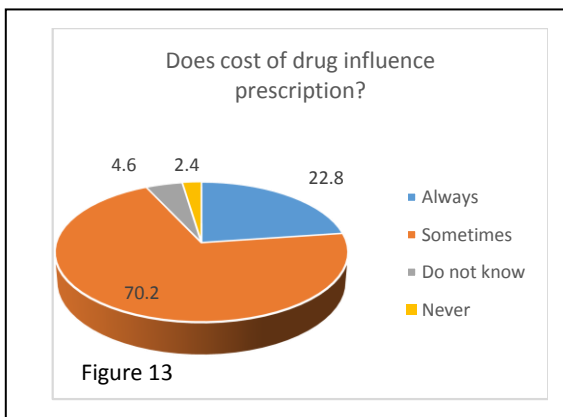
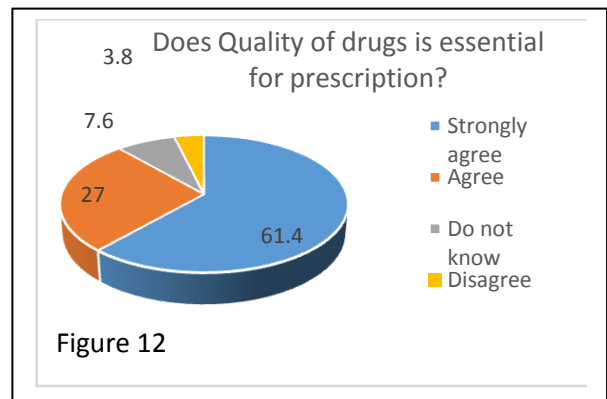
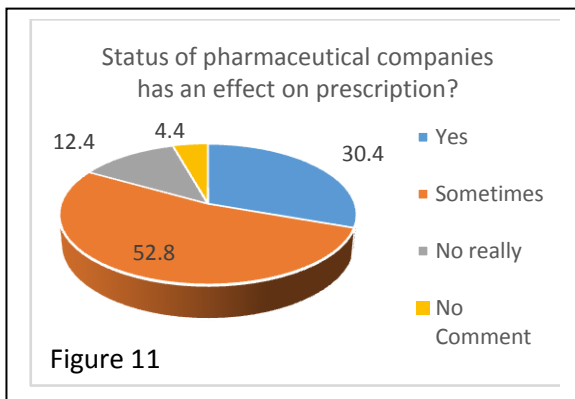
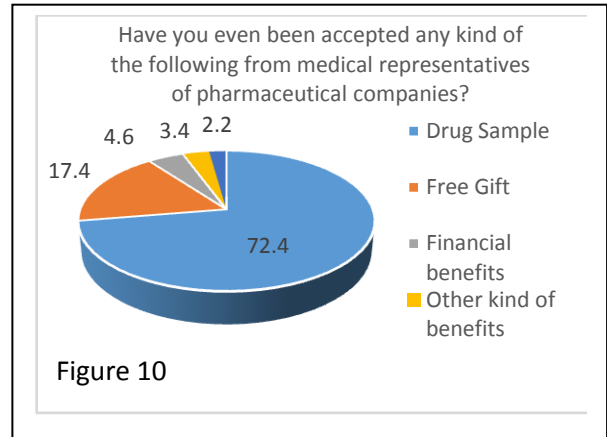
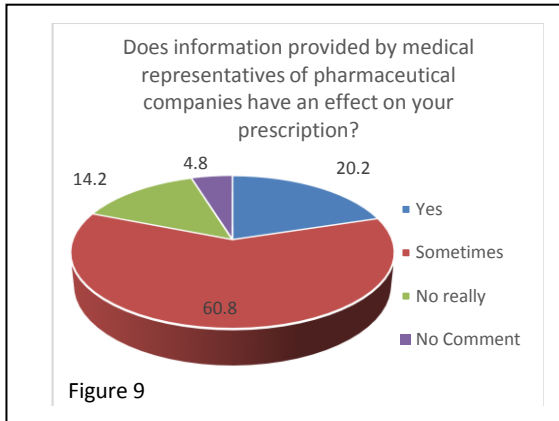
To promote their product pharmaceutical companies always provide newer information about new drug, existing drug and new formulations. A large number of physicians (62.2%) were agreed that these types of information are helpful for them. While some of them have opposite thinking (6.7%), they were pretty sure that these information are mainly focused on their product promotion. (Figure 4)

Almost half of the physician (48.0%) always crosschecks the information that was given by the pharmaceutical companies and some of them (31.2%) check it if they have doubt on it. On the other hand number of physician, those who do not crosscheck those information are also (11.8% & 3.6%) not negligible. (Figure 5) Beside this, the maximum number of physicians who crosscheck these information found satisfied. More than a half number of physicians found those data are accurate (20.6% very accurate & 36.4% accurate) but a major number of physicians have doubt on it. They thought there somehow some information was hidden. (Figure 6) According to them most of the time pharmaceutical companies only focuses the superiority of their product; they hide those major side effect, price and other drug related factor that may hamper their brand promotion. (Figure 7)

To provide information and to build up personal and professional relationship medical representatives visits almost every day to physicians chamber and hospitals. More than three quarter physician (76.4%) told that, pharmaceutical company personnel pay visit to them every day and only some negligible percentage of the (0.8%) rarely found them. (Figure 8) physicians also agreed that, those companies that visit them regular have better prescription than those who did not. (Figure 9) There are more than 250 pharmaceutical companies in Bangladesh and most of them formulate quality products.[16] To choose brands among all is a difficult job. For these reason those who pay visit on a regular basis can create a positive impact on physician's mind which reflects on the prescription.

Besides information, medical representatives also provides gift samples especially free drug sample. Almost three quarter physician takes (72.4%) free drug sample as souvenir. Some of them (17.2%) agreed with taking free gifts while a few of them deny of taking anything from the pharmaceutical companies. (Figure 10)

Nearly a third (30.4%) of the physician agreed that status of the pharmaceutical company have an impact on their prescription. While above half (52.8%) of them sometimes follow the companies status, specifically for choosing antibiotics and pediatric formulations. (Figure 11) Almost all physicians confirm that quality medication have influence on their prescription. (Figure 12) Beside quality of the product cost is another major concern to the physician. As Bangladesh lies on the lower middleclass economy line, so medication



cost plays a vital role the prescription practice of physicians. [17] Around a quarter of physician (22.8%) thought that pricing of the product have effect on the prescription. Nearly 7 in 10 physicians (70.2%) sometimes thoughts about the pricing based on the patients economic condition, but only a few never thought about these kind of situation. (Figure 13)

Trained and skillful manpower is always welcomed in marketing. This is also true for pharmaceutical marketing strategy. But pharmaceutical marketing is quite different from other marketing as the customer and consumers are different person. Physicians also thought

skilled and trained sales personnel have positive effect on the prescriptions. Because a well trained person can deliver the message correctly to them which is helpful for physicians. (Figure 14) Personal relation with physician also accelerates the prescription status of the medical representatives. Above four fifth physician (82.2%) agreed with this. Personal touch with the physician positively influences the prescription. (Figure 15)

CONCLUSION

This study indicates that, there are several factors influence the prescription behavior of the physicians. As maximum number of physician prefer brand name to choose the medication, pharmaceutical company takes this advantages. Sometimes marketing cost of the medicine is higher than its production cost. Our finding from this research, pharmaceutical companies should provide more skillful manpower and maintain good relationship for their betterment. Beside this they also should provide quality medicine at considerable price.

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