

Influence of Pharmaceutical Marketing on Prescription Behavior of Physicians: A Cross-sectional Study in Bangladesh

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Abstract

Pharmaceutical marketing is quite different from general marketing as the decision makers are the physicians (secondary customers) not the patients (original consumers), thus maximum marketing strategies are designed on focusing to the physicians. 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. The effectiveness of the promotional strategies on prescription behavior was marked in a seven point Likert scale. Pharmaceutical marketing influences the choice of the brands by physicians. 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. Among all promotional strategies "public relation" was found most effective strategy that influence a physician's prescription remarkably while "advertisement" of the pharmaceutical products in a journal or other printing object attracts the physician concentration least.

Keywords: Prescription; Marketing; Pharmaceuticals; Physicians; Promotional tools

Introduction

Unlike other industries, the main objective of pharmaceutical company marketing is to increase the profitability of the organization by accommodating the needs and wants of consumers. In various commercial industries, other than pharmaceutical company, it is much easier for consumers to make the choice to which brand and item ought to be obtained consistent with their necessities and pre-requisitions. Whereas in the pharmaceutical marketing consumers and customers are fall into two distinct lines [1,2]. Pharmaceutical marketing differs from other types of marketing because the consumers (patients) are not the target audience. It is the physicians who make the decisions on behalf of the patients are the target audiences of the pharmaceutical companies. For this reason the marketing strategies are mainly designed for the physicians not for the patients.

In recent years, the relation between pharmaceutical companies and physicians has received considerable attention, which create a conflict between the ethical professional interest of a doctor and his/her financial self-interest [3,4]. The pharmaceuticals resort to many ways in marketing their product. Giving away gifts, sponsoring seminars, free lunches and providing various facilities like transport facilities have been criticized as inducements which compel a doctor to prescribe without scientific basis[5,6]. Many physicians, however do not feel that their prescriptions are influenced by gifts and other incentives provided by the pharmaceuticals. Recent studies proved that the association with pharmaceuticals lead to less than appreciate prescribing behavior by the doctors [7].

Last century, a huge growth of science and technology was witnessed. The noble tradition of medical profession has been virtually washed away day by day by strong financial and economic reasons. Number of medical practitioners and medical institutes has increased as an alarming rate leading to higher competition between group and individuals. Many of the present days ethical problems have originated because of the cut throat competition and degeneration of the moral and ethical values in the society [8-10].

Pharmaceutical industry is one of the world's largest industries due to its worldwide revenues of approximately US\$ 1057.1 billion in 2014 [11]. 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, Beximco Pharmaceuticals, Incepta Pharmaceuticals, and Opsonin Pharma etc. have already established their presence [12,13].

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 [14,15]. More than eighty percent patient medical representatives or sales promotion personnel on regular basis. Several studies showed that sales personnel d not significantly affect a physician's prescription behavior [16]. 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 [17].

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, Esomeprazole, a proton pump inhibitor, molecule contain more than hundreds of brand

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names like Esotid (Opsonin Pharma), Maxpro (Renana Pharma), Sergel (Healthcare Pharma) etc. [12,13]. 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.

Methods

Study subjects

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.

Measures

Forty marketing methods were noticed during a preliminary discussion with sales personnel and physicians and from the literature. After that marketing strategies were classified under five promotional strategies namely) i) Advertisements, ii) Sales promotion, iii) Public relations, iv) Personal selling and v) Direct marketing. The definitions, of these strategies, used in this article follow the descriptions by Kotler [17].

Advertisement is a paid non-personal promotion of ideas, goods and service by identified sponsors. It includes promotion of drugs in non-personal way through literatures, magazines or banner in conferences. Catch cover of free samples and words on the packaging of gift items are also included under advertisements.

Sales promotion is any initiative undertaken by an organization to promote an increase in sales, usage or trial of a product or service. Sales promotions are varied. Often they are original and creative, and hence a comprehensive list of all available techniques is virtually impossible. In pharmaceutical marketing these includes brand reminders like pens, paper weights, writing pads etc. Gifts of various value are also included in this category.

Public relations help an organization and its publics adapt mutually to each other. Public Relations broadly applies to organizations as a collective group, not just a business; and publics encompass the variety of different stakeholders. In pharmaceutical marketing in includes various program designs to promote the brands. It involve product launch meeting, clinical or scientific meetings, conducting a discussion by a specialist doctor related to products, sponsoring physician for conferences etc.

Personal selling is one kind of direct marketing. It is the detailing by the promotional personnel of the brand and the way the sales personnel handle objects and use visual aids. Drug sampling, price benefit, buy one get one free comes under the domain of personal selling.

Direct marketing is a type of advertising campaign that seeks to elicit an action from a selected group of consumers in response to a communication from the marketer. The communication itself may

be in any of a variety of formats including postal mail, telemarketing, and direct e-mail marketing and point-of-sale interactions. In pharmaceutical marketing it involves sending information of the brand advertisements via post, telephone, email or others.

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, Kishoregonj, Comilla, Bogra, Dinajpur, Naugaun and Tangail. The variables representing the marketing methods of the pharmaceuticals were included in the questionnaire. For an unbiased data collecting method, anonymous data or name address were rejected. Likert attitude measurement scale were used to grad the responses. In this study responses were marked on a seven point Likert scale [18].

The responses ranged from 1 to 7 (1= not at all effective; 2 = moderately non effective; 3 = somewhat non effective; 4 = not sure or may be effective; 5 = somewhat effective; 6 = moderately effective and 7 = extremely effective). The data analysis was done by EPI INFO software.

At a glance

Sample Size: 500 Doctors,

Area of survey: 12 major cities of Bangladesh,

Sampling Technique: Random sampling,

Research Tool: Structured Questionnaire,

Attitude measurement: By Likert scale.

Results

The study subject included 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.

Table 1 shows five major strategies of drug promotions. Maximum physicians are agreed that the most important and effective strategy that influence the prescription behavior was public relations of the company. This involved making good relationship with the physicians. This can be developed with time. This is achieved by several activities like sponsoring physicians for conferences, launch meeting and arranging several special day program like World Diabetes Day, World Arthritis day etc. Public relation was rated as 6.21 by the physicians. After public relation, sales promotion and personal selling were found most effective strategy with the rating of 5.44 and 4.87 respectively. Among all strategies direct marketing and advertisements found least effective. These are rated as 4.62 and 4.16 respectively by the physicians.

In Table 2, least effective marketing methods were included. According to the physicians' journal advertisements, direct mailing, transport facilities, low value gifts, free samples and visit of senior sale personnel's were found least effective method among all forty methods. Communicating with the physicians with advertisements was found moderately not effective with least rating 2.93. Direct mailing, transport

facilities, low value gifts were into the category somehow not effective with rating 3.15, 3.29 and 3.96 respectively. Providing free samples and visit of senior sales personnel were rate 4.11 and 4.62 respectively, which means these strategies may be effective depends on the physicians.

In Table 3 most effective marketing strategies are enlisted. Frequency of visit to the physicians were rated the top strategy that influence the prescription behavior. This strategy were rated 6.86. After this personal relationship, quality of the product, skillful detailing and reputation of the company comes that influence the prescription mostly. These strategies were rated as 6.51, 6.46, 6.40 and 6.26 respectively. All these methods are categorized as moderated effective to the physicians. After these high value gifts, sponsoring conferences, brand name, price of the product and launch meeting came, those are categorized as somehow effective strategies that influence the prescription of the physicians. These were rated as 5.97, 5.77, 5.65 and 5.48.

Beside all these factors many other factors were also highlighted by the physicians in the open ended questions. Personal services to physicians like samples for personal use, fulfilling special demands, family related services etc. may also influence the prescription behavior.

Discussion

The study shows that pharmaceutical marketing influence the prescription behaviors of physicians greatly. The effectiveness of different method varies widely physicians to physicians and sales personnel to sales personnel.

Frequency of visit to the physicians by the sales personnel and personal relationship of the physician with the medical representatives are mostly influence the prescription behavior of the physicians. It

is a quiet simple equation. In Bangladesh there are more than 250 pharmaceutical companies with more than 10000 brands [12]. For example, calcium, generic have been than 50 brand name. Which one will a doctor write for his/her patient? Answer is simple, the brand which is more visited to the physicians. That's why frequency of visit and personnel relation is most important than others.

A physician always prefers the quality of the product for his patient. That's why quality of the product is so much important. A product with less or no quality not suitable for long run, with quality product sales personnel also gets extra confident to detail the brand in front of the physicians. Same thing to the physicians also, because they can write it freely.

Skillful detail of a product is necessary to promote a drug, especially for the newer molecule. New drug molecules are not really familiar to the physicians. A perfect detailing of that drug can create the opportunity to make a space into physician's prescription. Beside this new information of existing product can be more accepted by a skillful detailing.

Gift with high value are always appreciated by the physicians. Sales personnel are always tried to find out the hidden need of a physicians. If they find it and solve it with proper item then it will be a perfect gift to them and this may contribute in the prescription a lot. In medical institutes in Bangladesh, conference occurs in very frequent basis. Sponsoring this event are also an excellent way to get into the good list of a physicians. That's why it is considered as somehow effective to make good relation to physician's and this also reflects into the prescription.

In Bangladesh drugs are mainly sold by brand names. So, brand

Strategy	Rating by physician ± Standard deviation (SD)	Comments
Advertisement	4.16 ± 1.19	not sure or may be effective
Direct Marketing	4.62 ± 1.12	not sure or may be effective
Personal selling	4.87 ± 1.03	not sure or may be effective
Sales promotion	5.44 ± 0.92	somewhat effective
Public relations	6.21 ± 0.87	moderately effective

Table 1: Mean rating of pharmaceutical marketing strategies by physicians.

Strategies	Rating by Physicians ± SD	Comments
Journal Advertisements	2.93 ± 1.76	Moderately not effective
Direct Mailing	3.15 ± 1.27	Somehow not effective
Transport Facilities	3.29 ± 1.08	Somehow not effective
Low Value Gift	3.96 ± 1.33	Somehow not effective
Free drug Samples	4.11 ± 0.96	Not sure may be effective
Visit of senior sales Personnel	4.62 ± 0.88	Not sure may be effective

Table 2: Least effective marketing methods rated by physicians.

Strategies	Rating by Physicians ± SD	Comments
Frequency of visit	6.86 ± 0.52	Moderately effective
Personal Relationship	6.51 ± 0.71	Moderately effective
Quality of the Product	6.46 ± 0.79	Moderately effective
Skillful detailing	6.40 ± 0.93	Moderately effective
Reputation of the Company	6.26 ± 1.21	Moderately effective
High Value Gifts	5.97 ± 1.41	Somehow effective
Sponsoring conferences	5.77 ± 1.25	Somehow effective
Brand Name	5.65 ± 1.36	Somehow effective
Product cost	5.48 ± 1.41	Somehow effective
Launch Meeting	5.39 ± 1.47	Somehow effective

Table 3: Most effective marketing methods rated by physicians.

name is a vital factor to influence the prescription behavior of a physician. A small, easy and meaningful brand name is easier to remember and write in the prescription. Chance of prescription also less with the shorter and unique name.

According to World Bank, Bangladesh lies into lower middle income country. So, product cost is also a thing to consider while prescribing a drug. A drug with high effectivity and low in cost are highly appreciated by the physicians. Considering this factor pharmaceutical companies always try to make a competitive price for their product. Beside all these facts, launch meeting I found somehow effective to the physicians.

These also some pharmaceutical marketing strategies that eventually not liked by the physicians. Advertisement on the journal is one of them. It was found moderately not effective approach to influence the prescription behavior of physicians. It may because; the physicians have not much time to spend on this kind of advertisements. Direct mailing, transport facilities and low value gifts somehow not effective to influence the physicians to write the product on the prescription. Most of the physician refers this mail as junk categories.

Free drug sample also attracts less, because physician do not actually need these huge amount of drugs from various companies. Of the record, most of the drugs are sold under rate to the market. So this is not an effective way to influence the prescription of the physicians. Lastly visit of the senior sales personnel to the physician not a helpful approach either to influence physician. It may increase the prescription for a little time but not for long time.

As expensive pharmaceutical strategies increase the spending on healthcare, one has to decide whether there should be a control on industry and physician relationships.

Conclusion

Several factors are considered by the pharmaceutical marketers to promote their products in front of physicians during the selection of a medication. In our study we found that sales personnel activity, personal relation, product quality and reputation of the company influence

the prescription behavior of a physician. That's why pharmaceutical marketing influences the prescription behavior of a physician greatly.

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