



ISSN: 2277- 7695

TPI 2014; 3(7): 08-12

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www.thepharmajournal.com

Received: 14-07-2014

Accepted: 28-08-2014

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Pharmaceutical marketing mix strategy and physician's prescription behavior

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ABSTRACT

Purpose: This research paper gives an insight about the processes used by local and MNCs pharmaceutical companies in Pakistan. The purpose of our research is to examine that what factors affect physician prescription behavior based on ethical grounds.

Methodology: This research focuses on the strategies and marketing tools used by pharmaceutical companies in Pakistan, and how Physicians behave against all these marketing strategies in terms of Prescription patterns. The questionnaire survey method is used for data collection and SPSS is used for Correlation and Regression techniques for the understanding of Physician's prescription behaviour.

Findings: The data analysis figuring out the correlation of these variables with the subject of the study i.e. factors influencing the prescribing behavior of the physician. The data shows the significance level of individual independent variable as Promotional tools. According to the results of Multiple Regressions Analysis (MRA) the researchers can conclude that independent variables have significant relationship with dependent variable. Therefore other all hypotheses are accepted except on Personal Obligation. Therefore, Promotional tools (Literature, Samples, Detailing Knowledge & skills of Medical Reps, Scientific activities like RTD's, LSP & FSP, Local & International CME's all influence the physician prescription behavior in Pakistan.

Social Implications: The impact of social media is very huge, moving from conventional marketing and adopting social media is a very powerful tool, which can reshape the whole Pharmaceutical industry. Creating awareness about a disease (identification & cure) is an important aspect. Using technology can also help to reach the masses and educate them in a very effective way by using different techniques which have an impact on the viewer and can help them to understand in a very simple way; this could be done by using animated videos, articles, ads and awareness campaign via using search engines and social platforms.

Value: There has been an increase in competition in pharmaceutical industry due to which there has been shift in the marketing strategies of pharmaceutical companies. This study concluded that for better execution of promotional tools Pharmaceutical Marketing Mix is developed, there is greater marketing Mix spending on sales force. Pharmaceutical marketing Mix is a set of pharmaceutical promotional tactics used for marketing and selling of product. Pharmaceutical marketing Mix is developed for better understanding of different promotional activities and tactics such as sampling and sales force promotion which also help to change the prescription behavior of Physicians.

Keywords: Drug Patent; Marketing Mix; Promotional Tactics; Prescription Behavior

1. Introduction

Pakistan Pharmaceutical market is over **Rs. 21.59** billion and is growing with the growth rate of 16.4 % (IMS QIII 2013). More than 600 companies registered with Ministry of Health (MOH), out of which **400** pharmaceutical manufacturing units including those operated by 28 multinationals present in the country meets up to approximately **80%** of the local market demand of finished goods ^[1]. Pakistan imports over **90%** of Active Ingredient it requires for making medicine. Market has shown growth over the years. As compared to multinational pharmaceutical companies local Pharmaceutical companies have succeeded to get higher market share. According to PPMA there are 40,000 registered brands with over 1400 molecules ^[1].

According to IMS Q3 ^[1] data Pakistan Pharmaceutical industry accounts for 55-60 % market share with respect to value but unit wise it accounts for 70-75%. Ministry of health permits for import of products and regulates prices (Controlled pricing). Pharmaceutical marketing mix is a set of pharmaceutical promotional tactics used for marketing and selling of product ^[2]. Pharmaceutical marketing mix is developed for better understanding of different promotional

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activities and tactics such as sampling and sales force promotion [3]. Whether a brand manager is using right promotional tools, whether 4P's (now 7P's are considered) are linked to each other and with product strategies for the two main objectives that includes [3]:

- To Generate Prescription
- Make the product reach the patient

They can be said as Product chain and Prescription chain

1.1 The Product Chain

This starts from selection of molecules and ends in the hands of patient. This chain is somehow intensive as it starts from the selection of molecules, then molecules are critically screened, after the screening of molecules the source of raw material is identified then the pilot batch manufacturing process starts at this stage pricing strategies and clinical trials are worked out. Once the pilot batch is manufactured then it starts with the commercialization of product, after commercialization product goes to distribution house and then it reaches the retailers. After patient's diagnosis by doctor, patient purchases that product from retailer [4].

1.2 Prescription chain

This process starts by knowledge given to doctors by Pharmaceutical company's medical Reps. They give the material in various ways such as; through in-clinical promotional activities and out-clinical promotional efforts. Then the doctor if is satisfied, prescribes the medicine to patient and patient purchase that product. Both product chain and prescription chain are linked to the core-marketing objective [4].

1.3 Ethical Evaluation of Pharmaceutical Marketing in Pakistan

The major objective of the study is to analyze the main important fair and lawful challenges of Pakistan Healthcare industry and also scrutinize the unfair means of marketing in Pakistan such as effect of product give-away, prescription behavior and societal value of obligation and intent of sales and marketing personals [5, 6]. In addition to that the research will also help us in analyzing the impact of unfair means of marketing on end users [7, 8]. A specific survey was carried out based on two classes:

- Consultants
- Pharmaceutical Companies

The results obtained from the surveys indicate that there is no system in Pakistan to control the marketing activities and promotional tools opted by healthcare professionals as well as the companies [9]. In addition to that, we cannot overlook the fact that there is sufficient indication that unfair means of marketing has affected badly to health care sector. Finally the study suggested that the relationship between prescribers and healthcare companies should be based on sincerity and precision [10, 11].

1.4 Need for new Pharmaceutical Strategies

Pharmaceutical marketing is based on "Below the line" marketing strategy where they are not focusing on direct user instead they target the doctors. Generally healthcare companies use following tools as their marketing strategy;

- Product Samples
- Scientific data (Product Literature)

- Product related Give-away
- CME's or RTD's

In addition to that Sales Promotional officers are the most important tools for the promotion of the product directly to the prescriber [12]. The expenses occurred in shape of salaries cost around 15-20% of the product budget. But now a day globally this old trend is changing significantly in order to decrease the fixed cost that is occurring in term of compensation to the field force. Internet promotion in addition to the field force is the need of the changing world [13]. The perfect marketing tactics for any healthcare company is based on keeping vigilant eye on the needs and demand of the consumer. Internet Marketing or Social Media Marketing is the requirement of emerging marketing trend [14, 15].

1.5 Sales and Marketing Strategies in Pharmaceutical Industry

Pakistan Pharmaceutical market has changed a lot in last decade or so due to the increase pressure of generic products. In this highly competitive market field force skills enhancement and right strategies are key factors for success. In addition to that if you want to be successful in current situation pharmaceutical marketers should generate new ideas and strategies rather than dependent on old-fashioned trend [16].



Fig 1: Marketing Mix

Field force optimization is very important as most of the companies are using this resource. In addition to this promotional tools like product samples, product give-away, CME's and RTD's are very common and such activities are declared as illegal in many countries around the world and needs lots of finance to commence these activities [17]. Many companies are enthusiastic to change this trend and willing to opt better and cost effective options. Technological changes around the globe are also one of the key factors, which have made them think on switching the old trends. Use of Internet based marketing, e-detailing, sales optimization and sales analytical software can change the dimension of sales [18].

1.6 Relationship of Physicians and Pharmaceutical Companies

In Pharmaceutical Industry doctor is a major role player, who speaks on behalf of the company and makes decisions by prescribing the medicines, and also influences to other doctor's prescription behavior, which is a critical factor for the Pharmaceutical Companies [19]. The relationship between physician and pharmaceutical companies is always remained

controversial, because of personal interests and clash between money and ethics [20]. According to many researches, if Medical Reps have established good relations with physicians, the more chance of doctor's prescriptions for a certain drug [21].

1.7 Objective of the Study

The ultimate objective of the research is to find and to investigate current existing different marketing practices or marketing tools or marketing campaign used by top Pakistan Pharmaceutical Companies in Pakistan through literature study, case studies, interviews and questionnaire survey [22]. Our research study will finally come up with best ethical marketing practices that would improve the healthcare rate in our country Pakistan at optimum level [23].

Apart from this the objectives include:

- Bringing transparency in promotion
- Proper regulation of relevant laws

Another objective is to find out various marketing campaigns and marketing tools used by multi-national companies and by local pharmaceutical companies which influences the prescription patterns of the doctors [24].

2. Material and Methods

2.1 Research Design

This study is based on qualitative and quantitative method of research. The data has collected from different sources i.e. IMS data, articles, journals, books and Internet. For primary data surveys and interviews conducted with HCP's, Marketing personnel and Sales personnel of Pharmaceutical industry.

2.2 Population

The frame of reference includes both male and female HCPs, Marketing personnel and Sales personnel of Pharmaceutical Industry.

2.3 Sample Size & Technique

The simple random sampling method was chosen and tested through hypothesis; Sample size was 100 collected through survey and interviews depending upon the time and availability of the resources and respondents.

2.4 Data Analysis

Correlation and Regression analysis has applied for the data analysis and interpretation. SPSS software has been used for this purpose.

2.5 Research Hypothesis

H0 There is significant relationship between physician prescription behavior and various promotional tools

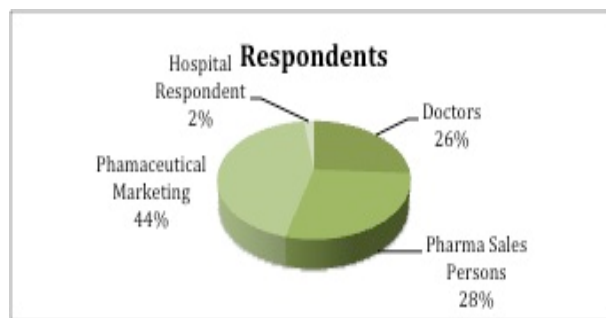
H1 There is no significant relationship between physician prescription behavior and various promotional tools

3. Results and Discussion

Following Pi graph shows the overall analysis of respondents:

Table.1 illustrates that there is a positive relationship between dependent variable (Physician Prescription Behavior) and independent variables (scientific activities like RTD's, LSP & FSP, Detailing Knowledge & skills of

medical reps, Promotional tools like literature, samples and give away, local & International CME's or the conferences except personal obligations (Cash, Clinical Appliances).



Graph 1: Graphical Analysis of Respondents

Table 1: Model Summary

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.570 ^a	.325	.289	.415

a. Predictors: (Constant), Personal Obligations (Cash, Clinical Appliances), Scientific Activities (RTD's, LSP & FSP etc.), Detailing Knowledge & skills of Medical Reps, Promotional tools (Literature, Samples & Give-aways), Local & International CME's or the Conferences

The R shows that there are 0.570 positive relations and this is said to be as 57 %. Further Adjusted R-Square shows that how much dependent variable can be affected by independent variable. In our study dependent variable gets affected 28% by independent variable; this relation is due to the negative relation of personal obligation to the physician prescription behavior. Physician prescription behavior is dependent and personal obligation is independent.

Table 2: Anova

ANOVA ^b						
	Model	Sum. of Squares	Df	Mean Square	F	Sig.
1	Regression	7.795	5	1.559	9.043	.000 ^a
	Residual	16.205	94	.172		
	Total	24.000	99			

a. Predictors: (Constant), personal obligations (Cash, Clinical Appliances) scientific activities (RTD's, LSP & FSP), Detailing Knowledge & skills of medical reps, Promotional tools (Literature, Samples and give away), Local & International CME's or the Conferences

b. Dependent Variable: Prescription behavior of physician

Table. 2 shows that overall model is statistically significant or in other words we can say that independent variables has positive affect on dependent variable except personal obligation independent variable. The table shows the study of variance (ANOVA). Significance values are 0.00 and the values of F are 9.043.As it is clear from table that significance value is less than 0.05, which means the model is statistically significant.

Table 3: Coefficients

Coefficients ^a					
Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
(Constant)	10.336	.929		11.126	.000
Promotional, tools (literature, samples, and give away)	-0.401	.096	-0.363	-4.168	.000
Detailing Knowledge & skills of Medical Reps	-0.369	.109	-0.289	-3.374	.001
Scientific activities (RTD`s, LSP & FSP)	-0.211	.105	-0.178	-2.002	.048
Local & International CME`s or the Conferences	-0.319	.140	-0.204	-2.273	.025
Personal Obligations(Cash, Clinical Appliances)	-0.115	.065	-0.154	-1.785	.078

a. Dependent Variable: Prescription behavior of physician

Table. 3 shows the significance level of individual independent variable as Promotional tools like literature, samples, Detailing Knowledge & skills of medical reps, scientific activities like RTD`s, LSP & FSP give away local & International CME`s or the conferences and personal obligations (Cash, Clinical Appliances) are 0.00,0.001,0.048,0.025, 0.078 respectively, these are less than 0.05 except personal obligation variable. On the ground of above calculated Multiple Regressions Analysis (MRA) results we can conclude that independent variables have significant relation with dependent variable. Therefore other all hypotheses are accepted except on Personal Obligation.

As Promotional tools like literature, samples, Detailing Knowledge & skills of medical reps, scientific activities like RTD`s, LSP & FSP give away local & International CME`s or the conferences with 0.00, 0.001, 0.048, 0.025 values influence the physician prescription behavior except personal obligations. As majority of doctors and Pharmaceutical Marketers responded that they disagree with personal obligation technique for prescribing the medicine, although sales representatives responded that this technique influences heavily for maximum prescription of medicines ^[25].

There is significant relationship between physician prescription behavior and various promotional tools like scientific activities like RTD`s, LSP & FSP, Detailing Knowledge & skills of medical reps, Promotional tools like literature, samples and give away, local & International CME`s or the conferences except personal obligations. Therefore we accept the null hypothesis ^[26].

4. Conclusion

The analysis of the data accumulated shows the relationship between the dependent variable and independent variable. Dependent variable is the physician and independent variables are the services provided by the pharmaceutical companies in form of LSP, MGS, Samples, Give a ways, local & international CMEs and personal obligations. The analysis shows that the prescribing behavior of the physician is dependent upon the scientific knowledge, personal relations and continuous interaction with the doctor in form of LSPs, MGS and local & international CME`s. The data analysis figuring out the correlation of these variables with the subject of the study i.e. factors influencing the prescribing behavior of the physician. The data shows the significance level of individual independent variable as Promotional tools. According to the results of Multiple Regressions Analysis (MRA) the researchers can conclude that independent variables have significant relationship with

dependent variable. Therefore other all hypotheses are accepted except on Personal Obligation. Therefore, Promotional tools (Literature, Samples, Detailing Knowledge & skills of Medical Reps, Scientific activities like RTD`s, LSP & FSP, Local & International CME`s all influence the physician prescription behavior in Pakistan. The majority of doctors and Pharmaceutical Marketers responded that they disagree with personal obligation technique for prescribing the medicine, although sales representatives responded that this technique influences heavily for maximum prescription of medicines. It is further concluded that it is very important to develop and maintain relationship with customers by continuously engaging and giving them constant reminder about their presence. A healthy and long-term relation can last if the doctor is engaged with the medical representative through continuous sharing of knowledge and helping them to counsel and aid the patients wherever possible. For a doctor, the patients' health is the most important thing; if the drug is effective and cures the patients, and the companies are working under ethical boundaries the doctor will always rely and respect the company and the individual for adding value to the doctors and patients life.

5. Recommendation

It is very important to create value for money the patient is paying along with the other stakeholders. Every company should make sure it performs ethical practices at all times, be open and honest. Pharmaceutical companies need to adopt innovation and address the needs of patients and HCPs. The impact of social media is very huge, moving from conventional marketing and adopting social media is a very powerful tool, which can reshape the whole Pharmaceutical industry. Creating awareness about a disease (identification & cure) is an important aspect. Using technology can also help to reach the masses and educate them in a very effective way by using different techniques which have an impact on the viewer and can help them to understand in a very simple way; this could be done by using animated videos, articles, ads and awareness campaign via using search engines and social platforms.

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