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Research Article

Pharmaceutical Marketing Communication Strategies and Tools; Analysis of influence over physician's prescribing preferences

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Abstract: Pharmaceutical companies adopt different marketing communication strategies and tools in order to influence physician's prescriptions in their favor. These communication strategies and tools play a very important role in increasing profitability and sales revenues of the pharmaceutical companies. The present study was a multicenter, descriptive, cross-sectional study that aimed to identify the influence of strategies and tools on physician's prescribing preferences. The population of the study included graduate and post graduates physicians practicing in Pakistan. Using WHO sample size calculator, a sample size of 400 physicians was calculated that included 330 graduates (General Practitioners) and 70 post graduates (Consultant physicians). A self-administered questionnaire was used to collect the data comprising of 17 marketing communication tools on a likert scale tested for physicians' preferences, responses were recorded and weightage was given. The results of the study revealed that there was significant influence of marketing communication strategies and tools on physician's prescribing preferences. Among these tools, most effective tools of communication were senior doctor references (word of mouth marketing), reputation of the company, sampling, price of the product, detail aids, seminars and scientific activities. Gifting, packaging inserts, emailing and print ads in medical journal were found to be less important. There was a significant difference found among liking/preference of graduates and post graduates for marketing communication strategies and tools. Importance of peer group reference and reputation of the company was similar for both graduates and post graduates. It is important for the pharmaceutical companies to understand the preferences of their customers and allocate their marketing budget to the most effective marketing communication strategies and tools.
Keywords: Communication, strategies, tools, physicians, preference.

INTRODUCTION

The pharmaceutical marketing is one of the fundamental elements that transform the complex and important information of medicine to the end users into a simplistic form. It is the pharmaceutical marketing that updates physicians about the safety, availability, efficacy, side effects and about the technology of medicines usage[1].

Different promotional and communication strategies used by pharmaceutical industries are periodic visits of medical representatives, drugs samples, direct mail, promotional products, promotional fax, events and medical journal product information's for influencing physician on product prescribing[2].

The pharmaceutical marketing is different from the marketing of the consumer industry, because in Pharmaceutical marketing, it is the Doctor that acts as a target for customer rather than the patient (end user). Therefore it is necessary for pharmaceutical professionals to understand the prescribing practices of physicians for their growth, revenue and profitability[3].

To grow in market, there is a need to understand the prescription behavior, influences and practices of physicians. This understanding helps in developing marketing communication and promotional strategies. Physicians are not our customers but they are a very important and crucial link between pharmaceutical companies and patients. Consumer goods marketing is generally targeted and designed to the end user, but pharmaceutical industry is unique and it's marketing and targeting is different, because end user are not targeted directly in Pharmaceutical marketing. So there is a need to effectively design marketing communication strategies in order to get the most out of it. The different marketing communication strategies that are used widely and studied in this research are advertising, personal selling, word of mouth, interactive marketing, direct marketing, public relations and publicity, events and experience, sales promotion[3].

Table-1: Different tools of pharmaceutical marketing communications that comes under communication strategies

Communication strategy	Tools
Word-of-Mouth Marketing	Peer group / senior doctor references
General	Reputation of the company
	Price of Product
Personal Selling	Sampling
	Detail aids
	Knowledge of medical representatives
Advertisement	Print ADS Medical in journals
	Packaging inserts
	Brochures and Booklets of the medicines provided by the company
	Audio-visuals material (film shows, videos, power point presentations)
Public relations & Events	Seminars
	Sponsoring Medical events
	Product Launch parties
	CMEs, ward presentations , RTDs
Direct and Interactive Marketing	Mailing
Sales promotion	Gifts
	Exhibitions in conferences

The study was undertaken with the objective of identifying influence of different marketing communication strategies and tools on physicians prescribing preferences. Also, finding if there is any difference in liking preferences of graduates and post graduates for marketing tools.

MATERIAL AND METHODS

This was a multicenter descriptive, cross sectional study that focused on the influence of Pharmaceutical communication strategies and tools on Physicians prescribing preference. The study was conducted in OPDs of private and public sector hospital and private clinics of 14 cities of Pakistan over a period of two months from 6 Nov, 2014 to Dec 30, 2014. The study population was physicians of Pakistan who were doing OPD sittings, either private or in hospital or both. At confidence level of 95%, the sample size of 400 was used in which 330 were Graduates and 70 were Post graduates. A self-designed questionnaire was used to collect the data that consist of 17 promotional tools based on scale of 1-5 and in that, physicians were asked about the influence of different marketing communication strategies and tools on their prescription preferences.

Statistical Analysis

To test influence of marketing communication strategies and tools on physician prescribing preferences, Mean score method and test of multiple regression was applied. To find difference in liking preferences among graduates and post graduates, independent sample t-test was used.

RESULT

Result of the mean scores show that the word of mouth marketing communication strategy that includes senior doctor or peer group references has highest influence, mean score = 4.38. Reputation of the company and price of the product that falls in the General communication strategy has also high importance, mean score of 4.08 and 3.86 respectively. Personal selling, that includes sampling, detail ads, and medical reps knowledge is also a very effective tool. Advertisement has mixed responses. Advertisement in terms of print ads in medical journal was less important with a mean score of 1.5 and 1.4 respectively. Public relation and events also shown to be very effective with a mean score of 3.2 to 3.4.

Table-2: Result of the mean scores of marketing communication strategies and tools on physician prescribing preferences

Communication strategy	Tools	Mean
Word-of-Mouth Marketing	Peer group / senior doctor references	4.38
General	Reputation of the company	4.08
	Price of Product	3.86
Personal Selling	Sampling	4.06
	Detail aids	3.54
	Knowledge of medical reps	3.31
Advertisement	Print ADS Medical in journals	1.50
	Packaging inserts	1.44
	Brochures and Booklets of the medicines provided by the company	3.23
	Audio-visuals material (film shows, videos, power point presentations)	3.04
Public relations & Events	Seminars	3.2
	Sponsoring Medical events	3.41
	Product Launch parties	3.38
	CMEs, ward presentations , RTDs	3.26
Direct and Interactive Marketing	Mailing	1.59
Sales promotion	Gifts	2.73
	Exhibitions in conferences	3.6

Multiple Regression

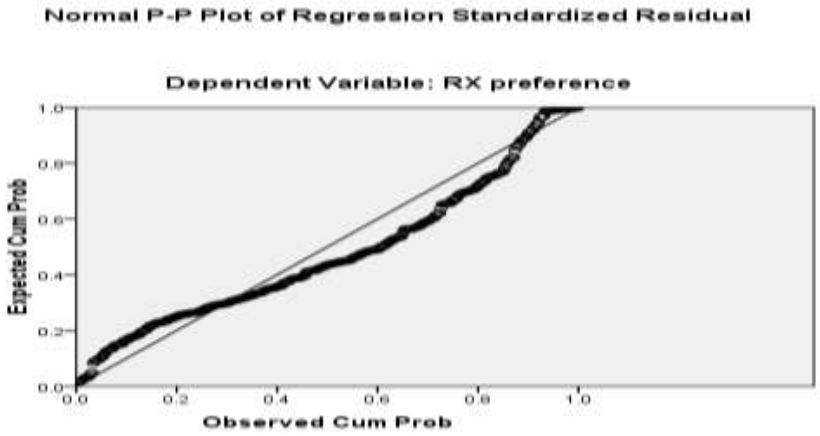

Fig-1: Graph of Multiple regression alanlysis

Table-3: Multiple regression analysis-Model summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.647[a]	.418	.392	.245
a. Predictors: (Constant), Knowledge of medical reps , Gifts, Reputation of the company, Peer group / senior doctor references, Print ADS Medical in journals, Sponsoring Medical events, Sampling, Mailing, Packaging inserts, Audio-visuals material (film shows, videos, power point presentations), Seminars, CMEs, ward presentations , RTDs, Price of Product, Product Launch parties, Exhibitions in conferences, Brochures and Booklets of the medicines provided by the company, Detail aids				
b. Dependent Variable: RX preference				

Table-4: Multiple regression analysis-ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	16.463	17	.968	16.157	.000[a]
	Residual	22.897	382	.060		
	Total	39.360	399			

a. Predictors: (Constant), Knowledge of medical reps , Gifts, Reputation of the company, Peer group / senior doctor references, Print ADS Medical in journals, Sponsoring Medical events, Sampling, Mailing, Packaging inserts, Audio-visuals material (film shows, videos, power point presentations), Seminars, CMEs, ward presentations , RTDs, Price of Product, Product Launch parties, Exhibitions in conferences, Brochures and Booklets of the medicines provided by the company, Detail aids
b. Dependent Variable: RX preference

The significant value of 0.000 at 95% confidence interval (i.e., <0.05) shows that it's a good fit model and there is significant influence of marketing communication strategies of physicians prescribing preferences.

Table-5: Multiple regression analysis - Coefficients

Multiple regression analysis-Coefficients							
Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
	B	Std. Error	Beta			Lower Bound	Upper Bound
(Constant)	0.569	0.254		2.242	0.026	0.07	1.069
Price of Product	0.029	0.013	0.094	2.152	0.032	0.003	0.055
Seminars	0.062	0.016	0.162	3.869	0	0.031	0.094
Detail aids	0.016	0.016	0.047	0.987	0.024	-0.016	0.047
Brochures and Booklets	0.079	0.018	0.199	4.477	0	0.044	0.113
Reputation of the company	-0.016	0.041	-0.016	-0.401	0.038	-0.096	0.064
Packaging inserts	0.036	0.024	0.06	1.473	0.142	-0.012	0.084
Sampling	0.059	0.019	0.129	3.122	0.002	0.022	0.097
Exhibitions in conferences	0.052	0.015	0.156	3.544	0	0.023	0.081
Audio-visuals material	0.055	0.016	0.15	3.499	0.001	0.024	0.087
Sponsoring Medical events	0.068	0.014	0.21	5.002	0	0.041	0.095
Peer/senior doctor references	0.09	0.024	0.15	3.676	0	0.042	0.137
Product Launch parties	0.045	0.015	0.128	2.987	0.003	0.015	0.075
Mailing	0.01	0.021	0.019	0.476	0.634	-0.031	0.051
Gifts	0.035	0.014	0.106	2.451	0.015	0.007	0.062
Print ADS Medical in journals	0.078	0.019	0.162	4.014	0	0.04	0.116
CMEs, ward presentations	0.043	0.013	0.145	3.322	0.001	0.018	0.069
Knowledge of medical reps	0.038	0.013	0.125	2.971	0.003	0.013	0.063
a. Dependent Variable: RX preference							

The p-value for each independent variable is significant i.e. <0.05, except for two variables that is packaging inserts and mailing (>0.05), which shows that there is significant influence of marketing communication strategies and tools on physicians prescribing preferences for a drug.

In order to find, if there is any difference in the liking of G.Ps (graduates) and consultant physicians (Post graduates), independent sample t-test has been applied.

Table-6(a): Independent sample t-test

Independent Samples Test										
		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
RX preference	Equal variances assumed	10.336	0.001	6.34	398	0.000	0.238	0.037	0.164	0.311
	Equal variances not assumed			5.501	104.779	0.000	0.238	0.043	0.152	0.323

The significant value of 0.000 from table 6a represents that there is a significant difference in the liking / preference of graduates and post graduates for different marketing communication strategies and tools.

Table-6(a): Dependent sample t-test

Levene's Test for Equality of Variances				t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Price of Product	Equal variances assumed	13.178	0	5.677	398	0	0.697	0.123	0.456	0.938
	Equal variances not assumed			5.176	109.749	0	0.697	0.135	0.43	0.964
Seminars	Equal variances assumed	0.076	0.783	-2.755	398	0.006	-0.278	0.101	-0.477	-0.08
	Equal variances not assumed			-2.93	131.912	0.004	-0.278	0.095	-0.466	-0.09
Detail aids	Equal variances assumed	33.817	0	11.158	398	0	1.147	0.103	0.945	1.349
	Equal variances not assumed			8.797	97.094	0	1.147	0.13	0.888	1.406
Brochures and Booklets of the medicines provided by the company	Equal variances assumed	5.958	0.015	6.653	398	0	0.628	0.094	0.443	0.814
	Equal variances not assumed			5.956	107.823	0	0.628	0.105	0.419	0.837
Reputation of the company	Equal variances assumed	0.14	0.709	-0.636	398	0.525	-0.025	0.039	-0.102	0.052
	Equal variances not assumed			-0.655	126.405	0.513	-0.025	0.038	-0.1	0.05
Packaging inserts	Equal variances assumed	11.01	0.001	1.761	398	0.079	0.116	0.066	-0.013	0.245
	Equal variances not assumed			1.881	132.726	0.062	0.116	0.061	-0.006	0.237
Sampling	Equal variances assumed	0.002	0.965	4.506	398	0	0.375	0.083	0.211	0.539
	Equal variances not assumed			4.633	125.942	0	0.375	0.081	0.215	0.535
Exhibitions in conferences	Equal variances assumed	5.36	0.021	6.605	398	0	0.744	0.113	0.522	0.965
	Equal variances not assumed			5.786	105.681	0	0.744	0.129	0.489	0.999

Audio-visuals material (film shows, videos, power point presentations)	Equal variances assumed	7.121	0.008	4.516	398	0	0.469	0.104	0.265	0.673
	Equal variances not assumed			4.149	110.584	0	0.469	0.113	0.245	0.693
Sponsoring Medical events	Equal variances assumed	0.002	0.963	-3.452	398	0.001	-0.413	0.119	-0.647	-0.178
	Equal variances not assumed			-3.394	119.112	0.001	-0.413	0.122	-0.653	-0.172
Peer group / senior doctor references	Equal variances assumed	0.515	0.473	-0.57	398	0.569	-0.038	0.066	-0.167	0.092
	Equal variances not assumed			-0.596	128.891	0.552	-0.038	0.063	-0.162	0.087
Product Launch parties	Equal variances assumed	0.022	0.882	5.711	398	0	0.609	0.107	0.4	0.819
	Equal variances not assumed			5.359	113.026	0	0.609	0.114	0.384	0.835
Mailing	Equal variances assumed	1.989	0.159	3.102	398	0.002	0.234	0.076	0.086	0.383
	Equal variances not assumed			3.261	129.756	0.001	0.234	0.072	0.092	0.377
Gifts	Equal variances assumed	0.309	0.578	7.909	398	0	0.891	0.113	0.669	1.112
	Equal variances not assumed			7.449	113.485	0	0.891	0.12	0.654	1.127
Print ADS Medical in journals	Equal variances assumed	1.287	0.257	0.952	398	0.342	0.078	0.082	-0.083	0.239
	Equal variances not assumed			0.978	125.771	0.33	0.078	0.08	-0.08	0.236
CMEs, ward presentations , RTDs	Equal variances assumed	2.701	0.101	4.96	398	0	0.634	0.128	0.383	0.886
	Equal variances not assumed			5.246	130.867	0	0.634	0.121	0.395	0.874
Knowledge of medical reps	Equal variances assumed	21.803	0	3.804	398	0	0.484	0.127	0.234	0.735
	Equal variances not assumed			4.537	158.909	0	0.484	0.107	0.274	0.695

The results of independent sample t-test revealed that that is a significant difference among liking of physicians and GPs for marketing communication strategies and tools except for four variables. The p-value for factors is found to be less than 0.05 in most of cases which shows that there is a difference in liking or preference of GPs and Physicians for marketing strategies

P-value for reputation of company, packaging inserts, peer group references an print ads in medical journals was found to be more than 0.05, which shows that graduates and post graduates have no difference in liking or preference for these.

DISCUSSION

As we know that in every place of the world, competitors constantly strive to beat each other and win the race of being no. one or getting front positions. Similar is the case with pharmaceutical companies. Pharmaceutical companies also compete with one another in order to make their products as a brand and to advance as compare to their competitors[4].

Different marketing communication strategies and tools used by the pharmaceutical company's intent to one basic objective that is business and profitability.

The study shows that by multiple regression analysis at 95% confidence interval, there is significant influence of marketing communication strategies on the prescribing preferences of physicians. Influence of Word of mouth marketing (senior doctor reference), General strategy (Cost of product, reputation of the company), personal selling (sampling, detail aids, knowledge of medical rep), public relation and events (seminars, CMEs, ward presentations, sponsoring medical events) is high and of greater importance among physicians. Advertisements (print ads, packaging inserts,) mailing, and gifts are of low importance for physician.

Similar results were found in a study conducted in India, in Goa city[3]. Price of the product, reputation, public events, and seminars has high influence and are of greater importance to influence physician prescribing behavior[5].

Another study also shows that a significant relationship is found among various promotional tools and physicians prescription. Among these tools, LSPs. RTD, local and international CMEs skill and knowledge of medical rep and samples play a vital role[6].

Word of mouth marketing is a very effective communication strategy that can be adopted by pharmaceutical companies. 97% of the respondents had high to very high influence for senior doctors' references. Similar results were found in another study[7].

Reputation of the company, is extremely important for influencing physician to prescribe a drug[8]. In our study, a highly strong response was seen by both, graduates and post graduates for for reputation of the company. For 90% of respondents, importance of reputation of company was very high. Similar results found in another study as well, in which the mean score of respondents for reputation of the company was 4.6[3]. In our study, the mean score was found to be 4.1.

Price of the drug has high consideration and is area of concern for physicians. Because high cost of drugs limits the patient care therefore physician consider cost very important, as found in our study and similar results reported in other studies[9]. 43.5% percent of the respondents said that price is highly important whereas for 28% respondents, importance of price was very high. Thus cost affects decision[10]. As price of product is an important factor, companies should launch their products at affordable price in order to gain better share from competitors.

CONCLUSION

The study was conducted to understand the influence of marketing communication strategies and tools on physicians prescribing preferences. The sample size of 400 was used. 400 physicians, including 340 graduates and 70 post graduates were provided with a validated self-administered questionnaire that consisted of 7 major marketing communication strategies comprising 17 marketing communication tools. Marketing communication strategies found to have a significant impact on physicians prescribing preferences. Peer group/senior doctor references, reputation of the company, cost of the product, seminars, exhibitions in conferences, medical events sponsorship, CMEs, ward presentations, sampling etc. was found to be more important marketing communication tools for the doctors, whereas gifts, emailing, packaging inserts and print ads in medical journals were found to be least important. The graduates and post graduate doctors showed similar preferences or liking pattern for four communication tools, that is reputation of the company, senior doctor references, packaging inserts and print ads in medical journals, whereas liking preference pattern was different for other communication tools.

There is significant influence of pharmaceutical communication strategies and tools on Physicians prescribing preferences (P-value = 0.000).

Preferences/Liking of communication strategies and tools among Graduates (GPs) and post graduates (Consultant Physicians) vary (p-value = 0.000)

REFERENCES

1. Levy R; The role and value of pharmaceutical marketing. Archives of family medicine, 1994; 3(4):327.
2. Spiller LD, Wymer jr WW; Physicians perceptions and uses of commercial drug information sources: an examination of pharmaceutical marketing to physicians. Health marketing quarterly, 2001; 19(1):91-106.

3. Khajuria A, Khajuria V; Impact of Pharmaceutical Marketing Communication Strategies on Prescription Practices of Physicians. Research Journal of Pharmaceutical, Biological and Chemical Sciences, 2013; 4(3):882.
4. Jawaid S, Jaffary M; Relationship between medical profession and Pharma industry. Need for greater security, accountability and transparency. Pakistan Journal of Medical Sciences, 2004; 20(4):283-91.
5. Ahmed R; Pharmaceutical marketing mix strategy and physician's prescription behavior. The Pharma Innovation Journal, 2014; 3(7):8-12.
6. Ramvar V, Ahmed N, Warraich U; Communication mix in pharmaceutical marketing. The Pharma Innovation Journal, 2014; 3(5):46-53.
7. Harikesh S, Puneet M, Tulika B; Asymmetric Social Interactions in Physician Prescription Behavior: The Role of Opinion Leaders. Journal of Marketing Research, 2010; 47(5):883-95.
8. Dexter N; The Relationship of Corporate Image to Product Behavior. The Public Opinion Quarterly, 1994; 28(2): 293-302.
9. Ryan M, Yule B, Taylor R; Influence of drug cost on patient care. Jornal of Pharmacoeconomics, 1996; 9(4):321-31.
10. Walzak D, Swindells S, Bhardwaj A; Primary care physicians and the cost of drugs: a study of prescribing practices based on recognition and information sources. The Journal of Clinical Pharmacology, 1994; 34(12):1159-1163.