Full Length Research Paper

Relevant influence of promotional tools by pharmaceutical industry on prescribing behaviors of doctors: A cross-sectional survey in Pakistan

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Worldwide drug expenditures have been one of the main concerns of health care managers, and its containment is one of the primary goals of health care authorities. The present study was conducted through a cross sectional survey in Pakistan during January to June, 2010 not only to find out the importance and influence of promotional tools used by pharmaceutical industry on prescribing behaviors of doctors/consultants, but to also establish comparison between doctors/consultants versus medical representatives and consultant versus doctors with an auxiliary of difference between local and multinational company's representative. The study revealed that promotional tools are considered vital from doctors and medical representatives' point of view. There exists significant difference in doctors and consultant's perception for sponsorships and low value gifts, but no difference in scientific promotional tools. No significant difference exits in perception of medical representatives of multinational and local company representatives. The companies tried to come up as per expectations of doctors to build its reputation and good image by employing different promotional tools. The study also revealed that marketing managers, product managers, chief executive officers or any decision makers involved in budget allocations and making promotional strategy should not rely heavily on medical representative's feedback as their perception is different from doctors/consultants about relevant importance of each promotional tool. The study will also help product managers and CEOs while allocating promotional budgets and developing promotional mix strategy, to gain maximum return out of investment. Detailed doctors' demographics can further be researched as predictor for preferring any promotional tools.

Key words: Prescribing patterns, promotional tools, physicians, pharmaceutical industry.

INTRODUCTION

The World Health Organization (WHO) define drug promotion as all informational and persuasive activities by manufacturers and distributors, the effect of which is to influence the prescription, supply, purchase or use of medicinal drugs (Norris et al., 2007). It is known that inaccurate and selective information is effective for drug promotion, and the quality of the drug information given to doctors in developing countries is poorer than that given to our western counterparts (Gitanjali et al., 1997; Rane, 1998). The pharmaceutical industries spend

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between 15 and 25% of its total budget on promotional activities, and this proportion is even higher in third world countries (Laporte, 1985). Drug expenditure has been one of the main concerns of health care managers; thus, its containment is one of the primary goals of health care authorities. Therefore, identifying prescribing-associated factors is of paramount interest from health, as much as social and economic standpoints (Bloor and Freemantle, 1996; Hassel et al., 2003; Granja, 2005). The effects of various factors on prescribing decisions have been considered in many studies (Scott et al., 1996; Wilson et al., 1996; Denig et al., 1998). The physician's age, training, environment and health-care demand have been quoted as explanatory factors for prescribing behavior. As Prosser et al. (2003) mentioned factors like doctor characteristics, hospital consultants, the pharmaceutical industry and patient characteristics lie behind the prescribing decisions among general practitioners (GPs). The doctor plays an important role in deciding which pharmaceutical brand is suitable for patient's treatment, so the main focus of pharmaceutical industry is to influence the decision making process of physicians (Peters et al., 2009). The researchers have observed that physicians have two types of medicines; evidence based and marketing influenced medicines, and concluded that evidence based medicine is a noble idea, while marketing based medicine is the current reality (Spielmans and Parry, 2010). The qualitative studies suggest that many perceive pharmaceutical promotion to be a useful and convenient source of information (Prosser et al., 2003; Chimonas et al., 2007; Fischer et al., 2009). It has been reported in studies that doctors deny that they are influenced by pharmaceutical company promotion or claim that it influences others, but not themselves (Steinman et al., 2001; Rutledge et al., 2003; Morgan et al., 2006).

The developed countries like US, Canada, Australia, New Zealand, Great Britain and Denmark had study data on the type and quality of doctors' contacts with pharmaceutical companies (Campbell et al., 2007; Segovis et al., 2007; Spurling and Mansfield, 2007) and India had studies on range of drug promotional practices (Roy et al., 2007). Unlike developed and developing countries, in Pakistan there is no study which has looked into this type of relationships between industry and doctors, but few studies have been conducted to look into the prescribing behaviors of consultants and physicians and ethical or unethical practices by pharmaceutical industry and physicians (Tarik and Jalees, 2008; Riaz et al., 2011).

The present study was conducted through a cross sectional survey in Pakistan not only to find out the importance and influence of promotional tools used by pharmaceutical industry on prescribing behaviors of physicians, but to also establish a comparison between physicians versus medical representatives and consultant versus general practitioner with an auxiliary of difference between local and multinational company's representative.

METHODOLOGY

The study was conducted in various districts of Rawalpindi division, Pakistan and materialized through a cross-sectional survey from January 2010 to June, 2010. Doctors were sub-categorized according to their premises of practice as government institutions and private institutions. Selection of institutions was made on two main criterions; number of beds of hospital and number of representatives visiting that institution. Pharmaceutical companies were divided into two main categories, that is, multinational companies and local companies.

Population and sample size

Judgmental sampling method was used to choose respondents, that is, only those doctors who were interacting with more than 25 medical representatives on daily basis (Taneja and Kaushik, 2007). Sample size of doctors taken was 200, half for physicians and half for consultants. However, to have a better representation, sample size is taken more than recommended for both medical representatives and doctors. Similarly medical representatives standing outside the physician' cabin/ward/hospital was chosen as our respondent. Questionnaire was distributed to 200 medical representatives, that is, multinational companies and half for local companies. Response rate was 75% after excluding rejections and null responses.

Questionnaire development

The questionnaire was adapted from Girish et al. (2007), who developed it for the same nature of study. It consisted of two major parts; one is for recording the basic information and demographics of respondent while the other part consists of the names of 16 different promotional tools used by the pharmaceutical companies to influence the prescribing behavior of physicians. Against each promotional tool, data was recorded through 5 point Likert scale. The same questionnaire was used for data collection from both doctors and medical representatives to find out the perceived perception of relevant importance of each promotional tool. For recording the demographics of doctors and medical representatives, the first part of the questionnaire was different, but the second part was same for both doctors and medical representatives.

Data analysis

SPSS version 17.0 for windows was used for data recording and then analysis. Two groups of doctors and medical representatives were analyzed through mean, mean differences, percentages, frequencies and median using SPSS descriptive analysis. ANOVA and independent sample t-test were applied to find out the differences within groups.

Data reliability and normality

Cronbach's-Alpha value is 0.632, showing validity of data, means it should be higher than 0.6 (Taneja and Kaushik, 2007), applied by many researchers like (Zachry et al., 2003). Levene statistics calculated through SPSS 17 shows normality of data except for scientific promotional tools.

RESULTS

Figures of mean differences show little bit difference in

Table 1. Mean response of doctors and medical representatives on different promotional tools.

Promotion tool	Doctor/representative	N	Mean	Standard deviation	Standard error mean
Sponsorships	Doctor	297	3.3567	0.01785	0.10335
	Medical representative	309	2.4674	0.7907	0.08112
Scientific promotional tools	Doctor	297	2.4804	0.92361	0.09378
	Medical representative	309	2.3137	0.39749	0.04078
Personal touch promotional tools	Doctor	297	3.268	0.74635	0.07578
	Medical representative	309	2.6807	0.6244	0.06406
Common promotional tools	Doctor	297	2.6873	0.74507	0.07565
	Medical representative	309	2.1298	0.62511	0.06414

sponsorships, personal touch promotional tools and common promotional tools, but it shows almost no difference in perception of scientific promotional tools. This validates that only scientific promotional tools are considered equally important both by doctor and medical representatives. In addition to this, there exists considerable difference in perception of all other promotional tools. All four categories of promotional tools show equal variances, calculated through levene statistics, as value is below 0.05 at 95% confidence level (Table 1). Sig (2-tailed) shows significance between doctor and representatives for sponsorships, personal touch promotional tools and common promotional tools, but there exists no significant difference in scientific promotional tools as the value is 0.107 and mean difference is also 0.166 which is comparatively less (Table 2).

Multiple comparisons between groups of government employed doctors, private employed doctors, local companies and multinational companies (ANOVA) show that government employed doctors show no significant difference with private employed doctors for all promotional tools. As perceptions of government doctors are not much different from private doctors, mostly government doctors are involved in private practice in evening hours. Local company's representative's shows significant difference for sponsorships and scientific promotional tools, but no significant difference between personal touch promotional tools and common promotional tools (Table 3). As multinational companies are getting business through investment on sponsorships and scientific promotional tools, hence they perceive them as effective promotional tools. While local companies neither have much marketing budget nor usual trend of investment, such tools is seen among local companies. To get short term benefits local companies rely more on common promotional tools and personal touch promotional tools.

Multiple comparisons between groups of physicians, consultant, medical representatives and area managers (ANOVA) show that physician's perception is significantly

different from consultant in all other promotional tools except for scientific promotional tools. Whereas little bit higher significance value of 0.047 is seen at confidence level of 95% between medical representatives and area mangers for common promotional tools, while others have shown no significant difference (Table 4).

Physicians perceives common promotional tool as most effective promotional tool for changing the prescribing behavior, while sponsorship and personal touch promotional tools are considered neutral and relatively least important. Consultants consider scientific promotional tools as most influencing for changing prescribing behavior, while sponsorships are least important. Figures of mean differences show little bit difference in sponsorships, personal touch promotional tools and common promotional tools, but there exists almost no difference in scientific promotional tools. This shows only scientific promotional tools are considered important both by doctor and medical representatives as equal. In addition to this there exists considerable difference in perception of all other promotional tools (Table 5).

DISCUSSION

The results of this study are in consistency with Rizwan and Jales (2008), which had conducted the same kind of study in Pakistan and found that both pharmaceutical representatives and doctors are involved in unethical promotional practices. The research has shown that the companies always try to focus on the selling through promotional strategies, such as gifting, sponsorships, traveling and common promotional tools for reminders. The main objective is to sustain in market and to remain competitive. Pharmaceutical sector is selling intensive, exception is for highly innovative brand, which incur R&D cost. In recent years, marketing budget has increased than R&D budget. So companies focus is more towards promotional strategies. This is meant for communicating key selling points to customers for changing prescribing

Table 2. Independent samples test.

Dependent variable	Doctor/Representative	Levene's test for equality	t-test for equality of means			95 % confidence interval of the difference	
		Sig.	Sig. (2-Tailed)	Mean difference	Standard error difference	Lower	Upper
Sponsorships	Equal variances assumed	0.082	0.000	0.88933	0.13172	0.62950	1.14916
	Equal variances not assumed		0.000	0.88933	0.13138	0.63009	1.14858
Scientific promotional tools	Equal variances assumed	0.312	0.107	0.16673	0.10300	0.03644	0.36990
	Equal variances not assumed		0.105	0.16673	0.10226	0.03557	0.36903
Personal touch promotional tools	Equal variances assumed	0.362	0.000	0.58734	0.0941	0.39124	0.78344
	Equal variances not assumed		0.000	0.58734	0.09923	0.39158	0.78310
Common promotional tools	Equal variances assumed	0.330	0.000	0.55746	0.09936	0.36147	0.75345
	Equal variances not assumed		0.000	0.55746	0.09918	0.36180	0.75312

Table 3. Multiple comparisons.

Dependent variable	(I) Government_Private_ Multinational_Local	(J) Government_Private_ Multinational_Local	Mean difference (I-J)	Standard error	Sig.	95% Confidence interval	
						Lower bound	Upper bound
Sponsorships	Government employed doctor	Private employed doctor	-0.33816	0.30104	0.676	-1.1185	0.4422
		Multinational company	1.23488	0.21138	0.000	0.6869	1.7828
		Local company	0.73295	0.14354	0.000	0.3603	1.1053
	Private employed doctor	Government employed doctor	0.33816	0.30104	0.676	-0.4422	1.1185
		Multinational company	1.57304	0.34150	0.000	0.6878	2.4583
		Local company	1.07111	0.30425	0.003	0.2824	1.8598
	Multinational company	Government employed doctor	-1.23488	0.21138	0.000	-1.7828	-0.6869
		Private employed doctor	-1.57304	0.34150	0.000	-2.4583	-0.6878
		Local Company	-0.50193	0.21594	0.006	-1.0617	0.0578
	Local company	Government employed doctor	-0.73295	0.14364	0.000	-1.1053	-0.3606
		Private employed doctor	-1.07111	0.30425	0.003	-1.8598	-0.2824
		Multinational company	0.50193	0.21594	0.006	-0.0578	1.0617

Table 3. Contd.

Scientific promotional tools	Government employed doctor	Private employed doctor	-0.11103	0.23911	0.967	-0.7308	0.5088
		Multinational company	0.24288	0.16789	0.472	-0.1923	0.6781
		Local company	0.12730	0.11409	0.680	-0.1684	0.4230
	Private employed doctor	Government employed doctor	0.11103	0.23911	0.967	-0.5088	0.7308
		Multinational company	0.35391	0.27124	0.561	-0.3492	1.0570
		Local company	0.23833	0.24166	0.757	-0.3881	0.8648
	Multinational company	Government employed doctor	-0.24288	0.16789	0.472	-0.6781	0.1923
		Private employed doctor	-0.35391	0.27124	0.561	-1.0570	0.3492
		Local company	-0.11558	0.17151	0.009	-0.5602	0.3290
	Local company	Government employed doctor	-0.12730	0.11409	0.680	-0.4230	0.1684
		Private employed doctor	-0.23833	0.24166	0.757	-0.8648	0.3881
		Multinational company	0.11558	0.17151	0.009	-0.3290	0.5602
Personal touch promotional tools	Government employed doctor	Private employed doctor	0.11303	0.23101	0.961	-0.4858	0.7118
		Multinational company	0.62752	0.16221	0.001	-0.2070	1.0480
		Local company	0.58988	0.11022	0.000	-0.3042	0.8756
	Private employed doctor	Government employed doctor	-1.1303	0.23101	0.961	0.7118	0.4858
		Multinational company	0.51449	0.26206	0.206	0.1648	1.1938
		Local company	0.47685	0.23348	0.176	0.1284	1.0821
	Multinational company	Government employed doctor	-0.62752	0.16221	0.001	-1.0480	-0.2070
		Private employed doctor	-0.51449	0.26206	0.206	-1.1938	0.1648
		Local company	-0.03764	0.16570	0.996	-0.4672	0.3919
	Local company	Government employed doctor	-0.58988	0.11022	0.000	-0.8756	-0.3042
		Private employed doctor	-0.47685	0.23348	0.176	-1.0821	0.1284
		Multinational company	0.03764	0.16570	0.996	-0.3919	0.4672
Common promotional tools	Government employed doctor	Private employed doctor	0.46897	0.22751	0.170	-0.1208	1.0587
		Multinational company	0.44578	0.15975	0.029	0.0317	0.8599
		Local company	0.65693	0.10855	0.000	0.3755	0.9383

Table 3. Contd.

	Private employed doctor	Government employed doctor	-0.46897	0.22751	0.170	-1.0587	0.1208
		Multinational company	-0.02319	0.25808	1.000	-0.6922	0.6458
		Local company	0.18796	0.22994	0.846	0.4081	0.7840
	Multinational company	Government employed doctor	-0.44578	0.15975	0.029	-0.8599	-0.0317
		Private employed doctor	0.02319	0.25808	1.000	-0.6458	0.6922
		Local company	0.21115	0.16319	0.568	-0.2119	0.6342
	Local company	Government employed doctor	-0.65693	0.10855	0.000	-0.9383	-0.3755
		Private employed doctor	-0.18796	0.22994	0.846	-0.7840	0.4081
		Multinational company	-0.21115	0.16319	0.568	-0.6342	0.2119

Table 4. Multiple comparisons.

Dependent variable	(I) Physician_Consultant_ Medical representative_Area manager	(J) Physician_Consultant_ Medical representative_Area manager	Mean difference (I-J)	Standard error	Sig	95% Confidence interval	
						Lower bound	Upper bound
Sponsorships	Physician	Consultant	-0.65593	0.20147	0.007	-1.1782	-0.1337
		Medical representative	0.45569	0.20006	0.107	-0.0629	0.9743
		Area manager	0.27844	0.23075	0.623	-0.3197	0.8766
	Consultant	Physician	0.65593	0.20147	0.007	0.1337	1.1782
		Medical representative	1.11161	0.1573	0.000	0.7038	1.5194
		Area manager	0.93438	0.19486	0.000	0.4293	1.4395
	Medical representative	Physician	0.45569	0.20006	0.107	-0.9743	0.0629
		Consultant	-1.11161	0.15731	0.000	-1.5194	-0.7038
		Area manager	-0.17724	0.1934	0.796	-0.6786	0.3241
	Area manager	Physician	-0.27845	0.23075	0.623	-0.8766	0.3197
		Consultant	-0.93438	0.19486	0.000	-1.4395	-0.4293
		Medical representative	0.17724	0.1934	0.796	-0.3241	0.6786
Scientific promotional tools	Physician	Consultant	0.18125	0.15995	0.669	-0.2334	0.5959
		Medical representative	0.31642	0.15883	0.195	-0.0953	0.7281

Table 4. Contd.

		Area manager	0.1875	0.18319	0.736	-0.2874	0.6624
	Consultant	Physician	-0.18125	0.15995	0.669	-0.5959	0.2334
		Medical representative	0.13517	0.12489	0.701	-0.1886	0.4589
		Area manager	0.00625	0.1547	1.000	-0.3948	0.4073
	Medical representative	Physician	-0.31642	0.15883	0.195	-0.7281	0.0953
		Consultant	-0.13517	0.12489	0.701	-0.4589	0.1886
		Area manager	-0.12892	0.15354	0.835	-0.5269	0.2691
	Area manager	Physician	-0.1875	0.18319	0.736	-0.6624	0.2874
		Consultant	-0.00625	0.1547	1.000	-0.4073	0.3948
		Medical representative	0.12892	0.15354	0.835	-0.2691	0.5269
	Physician	Consultant	-0.59482	0.14983	0.001	-0.9868	-0.21
		Medical representative	0.21221	0.14878	0.485	-0.1734	0.5979
		Area manager	-0.07759	0.17161	0.969	-0.5224	0.3672
Personal touch promotional tools	Consultant	Physician	0.59842	0.14983	0.001	0.21	0.9868
		Medical representative	0.81063	0.11699	0.000	0.5074	1.1139
		Area manager	0.52083	0.14492	0.002	0.1452	0.8965
	Medical representative	Physician	-0.21221	0.14878	0.485	-0.5979	0.1734
		Consultant	-0.81063	0.11699	0.000	-1.1139	-0.5074
		Area manager	-0.2898	0.14383	0.186	-0.6626	0.083
	Area manager	Physician	0.07759	0.17161	0.969	-0.3672	0.5224
		Consultant	-0.52083	0.14492	0.002	-0.8965	-0.1452
		Medical representative	0.2898	0.14383	0.186	-0.083	0.6626
Common promotional tools	Physician	Consultant	-0.71624	0.14873	0.000	-0.1018	-0.3307
		Medical representative	0.05335	0.14769	0.984	-0.3295	0.4362
		Area Manager	-0.3204	0.17035	0.240	-0.762	0.1212
	Consultant	Physician	0.71624	0.14873	0.000	0.3307	1.1018
		Medical representative	0.76959	0.11613	0.000	0.4686	1.0706
		Area manager	0.39583	0.14385	0.033	0.0229	0.7687

Table 4. Contd.

Medical representative	Physician	-0.05335	0.14769	0.984	-0.4362	0.3295
	Consultant	-0.76959	0.11613	0.000	-1.0706	-0.4686
	Area manager	-0.37376	0.14278	0.047	-0.7439	-0.0037
Area manager	Physician	0.3204	0.17035	0.240	-0.1212	0.762
	Consultant	-0.39583	0.14385	0.033	-0.7687	-0.0229
	Medical representative	0.37376	0.14278	0.047	0.0037	0.7439

Table 5. Group statistics.

Dependent variable	Physician consultant	N	Mean	Standard deviation	Standard error mean
Sponsorships	Physician	168	3.0000	1.27810	0.22594
	Consultant	129	3.5148	0.83463	0.10686
Scientific promotional tools	Physician	168	2.7125	0.82843	0.14645
	Consultant	129	2.2918	0.90607	0.11609
Personal touch promotional tools	Physician	168	3.0000	0.75728	0.13387
	Consultant	129	3.3388	0.66803	0.08553
Common promotional tools	Physician	168	2.3125	0.66093	0.11684
	Consultant	129	2.7978	0.67845	0.08687

behavior. Therefore, it has now become the need of pharmaceutical companies to rely heavily on the promotional activities to change the prescribing behavior of physicians. It has recently been explored that promotional strategies plays very important role in keeping your customer involved and getting the customer interested in your innovations. Promotional tools are very much important besides detailing of product. Almost all pharmaceutical companies have increased their investment on promotional tools. They are offering different options to deliver benefits, and in return demands prescription. On the other side, doctor's expectations from pharmaceutical representatives are changing, irrespective of ethical and unethical issues. Although, these tools have shown its impact on sales increase, there is a reason why the companies are spending too much on promotional tools as to come up to the expectations of customers. As huge cost is involved in promotion so, the question arises whether the companies are using right promotional tool for the right customer. It can also be a major concern that either the companies are getting maximum output against investment on these tools. This study has provided a guide to differentiate the physicians according to their expectations. It also helps to understand the difference in perception about each proportional's effectiveness between doctors and medical representatives. Pharmaceutical sector, the sales agents/sales representatives are doing business in rapidly changing competitive environment of industry, and they worked alone in

geographically distributed territories, it is then their responsibility to get feedback from customers and provide it to the company for appropriate strategy development. So, the learning from customer and its feedback to the company had a special role in this industry, medical representative agents are responsible to develops themselves as a resource to gain customer-access, and then they are required to use promotional tools of products.

This study had revealed that promotional tools are considered vital from both doctors and medical representatives' point of view, but there exists a significant difference in physicians and consultants for sponsorships and low value gifts and no difference in scientific promotional tools. In addition to this, there also exists significant difference in the perception of medical representatives and area managers. Medical representative considers that samples are more influential. It seems obvious that the companies should try to come up as per expectations of physicians to build its reputation and good image. So, the results show that companies should plan different promotional tools for different types of doctors. It also suggests that the marketing managers, product managers, chief executive officers or any decision makers who are involved in budget allocations and making promotional strategy, should not rely heavily on medical representative's feedback as their perception is different from doctors about relevant importance of each promotional tool. The companies' focus is towards promotional activities that target physicians and consultants. It has now become the need of pharmaceutical companies to rely heavily on the promotional activities to change the prescribing patterns of physicians, and it has recently been explored that promotional strategies plays very important role in keeping the customer involved and getting the customer interested in pharmaceutical companies' innovations (Sikdar and Vel, 2010). The marketing to health care providers takes four main forms: gifting, detailing, drug samples and sponsoring continuing medical education (CME) (Sufrin, 2008). The research has concluded that pharmaceutical sales forces as well as promotional tools are important indicators of corporate identity to doctors (Prosser et al., 2003). Beside provision of information, many other promotional tools are being used to change the prescribing patterns of customer (Peters et al., 2009). Scientific symposia offered in hotels at the expense of pharmaceutical manufacturers' (Orlowski and Wateska, 1992), or industry sponsored CME courses (Bowman and Pearle, 1988) increase the number of prescriptions for the advertised medications. The close contacts with the pharmaceutical industry increase the likelihood that doctors will plead for including the drugs from those manufacturers in hospital drug formularies (Chren and Landefeld, 1994). Recent studies had also shown that short seminars that focus on the subject of interactions with pharmaceutical companies have not resulted in

lasting changes in behavior or attitudes (Randall and Rosenbaum, 2005; van et al., 2006). A study had also showed that small gifts to medical students increased positive attitudes regarding the advertised substances at a later stage (Grande et al., 2009). Another study showed that doctors whose prescription costs were high were more likely to receive visits from sales representatives and did so more often (Watkins et al., 2003). Ineffective promotional information may be harmful if it wastes prescribers' time or if the money spent on promotion increases the cost of medicines (Johnston and Hauser, 2007); this is of concern given the large expenditure involved (Gagnon and Lexchin, 2008). The subject of this study is the impact of promotional tools to influence doctors by means of their representative visits, and one of many ways of influencing them is by giving out gifts. Further examples include biasing the protocols, results and interpretations of studies, and influencing trial registration and publication as well as authorship of scientific articles and access to study data. These forms of influence have recently been described in detail (Baethge, 2008; Schott et al., 2010). The provision of information is a mode to develop relationship with doctor, but ultimate goal is to generate sales of their brands (Paul McGettigan, 2001).

Conclusion

The study has shown that physicians perceive that scientific promotional tools are more influencing in changing prescribing behaviors in comparison with other promotional tools, which is similar to the medical representative perception. But as far as other promotional tools are concerned, there exist a significant difference in perception of both medical representatives and doctors. It has also been found that common promotional gifts are more influential factor for physicians rather than consultants. On the other side, scientific promotional tools are more influential for consultants than physicians. No significant difference between government doctors and private doctors, and also no significant difference between medical representatives and area sales managers. It provides guideline for pharmaceutical companies, that companies should plan more of scientific promotional tools for consultants and more common promotional tools for physicians. Based on many influential factors perceptions of medical representatives are not as per actual reality, they perceive that doctors are more interested in sponsorships and personal touch promotional tools. This study helps product managers and CEOs while allocating promotional budgets and developing promotional mix strategy, to gain maximum return out of investment. In spite of researcher's personal interaction with respondents, they were reluctant to show their intentions and preferences. Hence, there are chances of manipulations of responses to become good

in front of respondents. Market is dynamic and continuously changing, so exact results are not generalisable for longer period of time. Data collection was in only one region of Pakistan, with few specialties, but increases the generalisablity. The data should be collected from single specialty and from all over the country regions. Sample size can be increased to increase the generalisablity of results.

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