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The Impact of General Practitioners' (GPs) Interactions with the Pharmaceutical Industry on their Clinical Practice and Professional Development

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ABSTRACT

Objective: to examine general practitioners' dealings with the pharmaceutical business, as well as their attitudes and practices regarding the acceptance and utilisation of free medication samples and other incentives from pharmaceutical representatives. **Methods:** In June 2014, general practitioners working in different parts of Karachi participated in this cross-sectional survey. Using a basic random selection approach, 222 general practitioners were included. After obtaining formal permission, data was gathered using a standardised, pretested, and self-administered questionnaire. SPSS version 20 was used to input the data. **Results:** The research comprised 222 general practitioners, 69.4% of whom were men and 30.6% of whom were women, with a mean age of 48.2 ± 8.2 years. Every general practitioner confirmed that they had received visits from pharmaceutical representatives, with 60.4% reporting visits from both domestic and international businesses. According to 36% of respondents, the visit was planned every two weeks. Every physician supported the role that pharmaceutical corporations play in the health and medical fields, and they all believed that working with these businesses is beneficial to their professional development. Of all physicians, 58.6% said that their prescription practices were based on the efficacy of the brand, while 32.4% stated that they recommended medications based on the company's personal profit. **Conclusion:** The conclusion is that pharmaceutical firms have a significant impact in general practitioners' clinical practices. It would be advised to use appropriate health policies to make these behaviours moral.

Keywords: Prescription Procedures, Clinical Practice, The Pharmaceutical Business, General Practitioners (GPs), and Professional Development.

INTRODUCTION

The patient is the primary focus of the health care delivery system, which is made up of medical professionals and the pharmaceutical sector worldwide. The pharmaceutical business in Pakistan is now operating as a multidisciplinary sector to preserve public health. Rules and regulations, laws, and governance with safety and control have significantly improved throughout time. These rules were implemented at every stage of the production process, marketing, and, ultimately, consumer access to pharmaceuticals. In order to provide patients the best care possible, doctors and chemists collaborate to monitor and assess regulations at every stage. This is the responsibility of both the government and the pharmaceutical industry. Patient management is accomplished by the appropriate flow of knowledge about novel medicines from the chemist to the

physician, who then communicates it to the patient. The majority of people in Pakistan go to general practitioners when they are sick [8]. Every day, doctors are inundated with drug-related information from several pharmaceutical industry representatives, which may be crucial, though not always helpful, in prescribing a medication to a patient [4, 5]. Pharmaceutical businesses use a variety of strategies to sell their goods and get doctors to prescribe them. These marketing tactics range from sponsorships to personalised gifts and free medicine samples [6]. Pharmaceutical sales representatives contact doctors on a regular basis to promote their goods. According to a Sonnergaard 7 research, most doctors responded favourably to these promotional visits as they are an efficient means of learning about new treatment alternatives.

Salespeople's promotional visits are regarded as a source of information, but it is also said that these visits might lead to unreasonable prescription practices [8]. Numerous studies have shown that accepting gifts from pharmaceutical corporations has a significant impact on doctor's prescribing practice and attitude. Economic and commercial motivations led to the desecration of certain ethical issues related to pharmacological and physiological interactions [10].

As previously said, the pharmaceutical business plays a crucial role in the medical area. Therefore, evaluating GPs' relationships with the pharmaceutical business was the goal of this research. The benefits and drawbacks of the relationship between doctors and the pharmaceutical business were discussed in this research. The study's findings will aid in educating our medical professionals on moral drug prescribing procedures. There is no denying the role pharmaceutical corporations play in maintaining the health of any society, but this research will assist build the connection between doctors and pharmaceutical businesses on ethical arguments that put the patient first.

METHODOLOGY

In Kara-chi, a cross-sectional research design was used. Data was gathered from several General Practitioner (GP) clinics located around Karachi. The WHO sample size estimate calculator was used to determine the sample size. An estimated population percentage of 50% was used for the sample size calculation, with a 0.07 margin of error and a 95% confidence level. In order to prevent data waste, 250 people were requested to take part in the research, even though the minimum number of participants needed for inclusion in the sample was determined to be 196. 222 physicians returned the fully completed forms, yielding an 88.8% response rate. One local and one international recognised pharmaceutical business provided a list of general practitioners. The GPs that were frequent in both lists were given computer-generated random numbers to use as a sample. The study included general practitioners (GPs) of any age or gender with a PMDC-registered MBBS degree who had been practicing in Ka-rachi for at least two years. It excluded GPs who practiced non-allopathic medicines, GPs who did not give verbal or written consent, and GPs who were not on the list of GPs provided by pharmaceutical companies. A questionnaire was created and tested prior to final data collection after a comprehensive review of the literature. After receiving informed permission, this pretested, structured, self-administered questionnaire was given to general practitioners at their clinics. Software called SPSS version 20 was used to analyse the data. All quantitative data were shown as mean and standard deviation, whereas all qualitative variables were displayed as percentages and frequencies. P values less than 0.05 were considered significant when using chi square to discover associations between qualitative

variables.

Ethical Consideration

Every participant in the research was asked for their informed permission. Participants are free to stop answering any of the study's questions at any time. Participants will be given identifying numbers in order to maintain data anonymity. The participants will be informed of the outcome.

RESULTS

A total of 222 general practitioners (GPs) with a mean age of 48.2 $\pm$ 8.2 years participated in this research. Of them, 68 (30.6%) were women and 154 (69.4%) were men. Of all GPs, 36 (16.2%) completed postgraduate studies, while 186 (83.8%) completed MBBS. 74 (33.3%), 44 (19.9%), and 104 (46.8%) had up to five years, five to ten years, and more than ten years of clinical experience, respectively. All of the general practitioners said that they had received visits from pharmaceutical representatives, with 6 (2.7%) coming from local pharmaceutical firms, 82 (36.9%) from multinationals, and 134 (60.4%) from both. The majority of pharmaceutical representatives, or 82 (36.9%), were visited every two weeks; nevertheless, the frequency of visits may range from daily to monthly, with 16 (7.2%) being visited daily, 38 (17.1%) once weekly, 52 (23.4%) twice weekly, and 30 (13.5%) monthly. Nearly all 222 (100%) general practitioners (GPs) agree that the pharmaceutical sector plays a significant role in health and medicine and that a visit from a pharmaceutical representative has benefited their careers. GPs identified a number of factors that can change their prescription practices, including brand effectiveness, company standards, cost factor, personal benefits, recommended guidelines, and scientific literature provided by the company, as reported by 130 (58.6%), 124 (55.9%), 94 (42.3%), 72 (32.4%), 34 (15.3%), and 30 (13.5%) of them, respectively. The relationship between the frequency of medical representative visits and the variables influencing general practitioners' prescription practices was evaluated and shown in Table 1. The cost element, brand efficacy, business standards, individual advantages, and company-provided scientific material all had significant P-values. A significant p-value for brand efficacy alone was found when the association between prescription habits and the kind of pharmaceutical representative was evaluated. (Table 1) GPs updated their professional knowledge in a number of ways. Table 2 provided information on the advancement of general practitioners' knowledge and the involvement of pharmaceutical firms in this respect. Pharmaceutical representatives' most popular advertising techniques were shown in Figure 1. Of all GPs, 92 (41.4%) preferred to prescribe medications from international corporations, just 12 (5.4%) chose medications from local firms, and 118 (53.2%) had no preference and prescribed medications from both types of companies. 146 (65.8%), 138 (62.2%), 116 (52.3%),

and 52 (23.4%) GPs, respectively, cited literature reviews, business image, personal relationships, and self-evaluation as reasons for favouring any certain organization.

At the end of questionnaire GPs were also inquired about the ethical marketing practices by pharmaceutical companies and their response is presented in Figure 2.

Table 1: Association of Factors affecting Prescription Practices with (a) Frequency of Visits by Pharmaceutical Representatives and (b) Type of Company

Factors affecting Prescription Practices		Cost Factor	Brand Effectiveness	Company Standards	Personal Benefits	Scientific Literature by representative	Recommended Guidelines
a. Frequency of Visits by Pharmaceutical Representatives							
	n	4	4	2	2	0	0
Daily	%	1.80%	1.80%	0.90%	0.90%	0%	0%
	n	14	22	18	10	4	8
Once weekly	%	6.30%	9.90%	8.10%	4.50%	1.80%	3.60%
	n	16	22	24	26	4	4
Twice weekly	%	7.20%	9.90%	10.80%	11.70%	1.80%	1.80%
	n	32	56	54	20	10	18
Fortnightly	%	14.40%	25.20%	24.30%	9.00%	4.50%	8.10%
	n	16	18	14	6	10	2
Monthly	%	7.20%	8.10%	6.30%	2.70%	4.50%	0.90%
	n	11	8	12	8	2	2
Other	%	5.00%	3.60%	5.40%	3.60%	0.90%	0.90%
P- value		0.001	0.018	0.002	0.002	0.023	0.129
b. Types of Pharmaceutical Representative							
Local Pharmaceutical Company	n	0	2	2	4	2	0
	%	0	0.90%	0.90%	1.80%	0.90%	0
Multinational Pharmaceutical Company	n	39	40	52	24	8	8
	%	17.60%	18.00%	23.40%	10.80%	3.60%	3.60%
	n	54	88	70	44	20	26
Both	%	24.30%	39.60%	31.50%	19.80%	9.00%	11.70%
P- value		0.062	0.022	0.146	0.166	0.198	0.092

Table 2: Professional Knowledge Update by GPs and Role of Pharmaceutical Companies

	Percentage	Frequency
Means to update Professional Knowledge		
Internet	65.8	146
CMEs	66.7	148
Books and newspaper	39.6	88
Literature provided by pharmaceutical companies	8.1	18
Frequency of attending CMEs/ Workshops/ Seminars		
Never	1.8	4
Rarely	30.6	68
Often	51.4	114
Habitually	14.4	32
Never & Often	1.8	4
Which CMEs are more beneficial for you?		
From multinational companies	29.7	66
Both	70.3	156
Which pharma representatives have more command on scientific literature provided?		
From local companies	2.7	6
From multinational companies	37.8	84
Both	59.5	132
Percentages of pharmaceutical representatives justify or satisfactorily answer the queries related to scientific literature		
No answer	5.4	12

25%	27.0	60
50%	49.5	110
75%	18.0	40

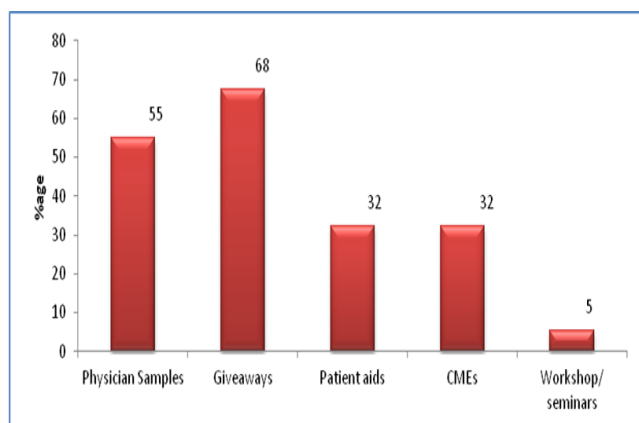


Figure 1: Most Common Promoional Tools (%)

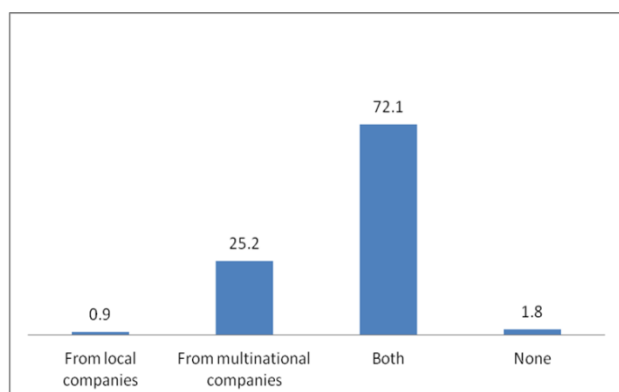


Figure 2: Which pharma representatives have ethical market-ing practices? (%)

DISCUSSION

These requirements 11 also apply to the marketing initiatives carried out by this industry's marketing department. Pharmaceutical corporations engage with medical professionals for a variety of purposes, including as research funds, teaching materials, and doctor samples of their medications [7]. To get doctors to prescribe their medications, they use a variety of strategies [4]. Every participant in this survey attested to receiving visits from pharmaceutical salespeople. Representatives from both local and international businesses visited 60% of general practitioners, while representatives from global pharmaceutical corporations visited almost 37%. Numerous research discuss the relationship between pharmaceutical firms and physicians [12]. These combinations may have some benefits, but they can also result in an illogical prescribing pattern [13, 14]. In terms of visitation frequency, the majority of general practitioners (GPs) in this survey were visited twice a week after being seen every two weeks (37%). According to a research done in Denmark, doctors' prescription patterns are only affected by pharmaceutical representatives' first two visits. Every one of the 222 participants stated that pharmaceutical

companies have a function to play in the health care sector and that the representative visit has improved their professional lives. Previous research has also shown that patients and carers should get information about medications [15]. This might raise awareness in nations with high literacy rates. In our nation, where the general people has a poor level of health knowledge, it may not be realistically possible. The majority of respondents (60%) believe that both local and international representatives are well-versed in the scientific literature that they discuss on the call. About 38% of respondents believe that multinational representatives have more expertise in describing scientific data. The majority of general practitioners believe that 50% of pharmaceutical salespeople are able to provide satisfactory answers to questions pertaining to scientific literature. This criterion is in line with another research carried out in Pakistan, which also found that half of the representatives were able to answer their questions about the drug's efficacy, safety, cost, pharmacodynamics, and kinetics [15]. The majority of earlier research solely looked at the negative aspects of the pharmaceutical business and medical professionals. As a result, industry's contribution to bettering care has been given much less weight [16-18]. The findings of studies have shown that these unethical activities are a product of both industry and doctors. More than two thirds (72%) of G.P.s in our poll believe that both local and international business procedures are ethical, whereas 25% believe that only multinational businesses have ethical practices. It's interesting to note that a very little percentage (about 2%) of G.P. believed that neither local nor multinational corporations had ethical practices. The rationale for their prescription, or why they choose to prescribe one medication over another in the same class, was another crucial topic. The decision is often made based on the company's image (56%) and brand effectiveness (59%). Cost-effectiveness and individual advantages come next. The majority of general practitioners (53%) prescribe medications from both domestic and foreign manufacturers, while an additional 41% choose foreign medications over those from domestic manufacturers. These findings contrast sharply with those of another research carried out in Pakistan, when 75% of doctors favoured international pharmaceuticals over domestic ones [15]. Based on a review of the literature and the firm's reputation, they selected a pharmaceutical company. As was previously said, pharmaceutical businesses market their products using a variety of strategies. Promotional giveaway products (67%) and physician samples (55%) are the most often utilised tools, according to research participants. This contrasts with a previous research that found that samples were the most often utilised instrument for marketing (84%) [15]. Physicians must stay up to date on new

developments in many treatment areas since medicine is a dynamic discipline. The Internet accounts for over two thirds of G.Ps' self-education, with Continuous Medical Education (CME) programs, which are mostly run by pharmaceutical corporations, coming in second. Many general practitioners continue to educate themselves via books and newspapers. When asked about CMEs, more than half of general practitioners frequently attend them, and 70% of them think that both local and international pharmaceutical companies' CMEs are beneficial, while 30% think that multinational companies' CMEs are more beneficial than those of local pharmaceutical companies.

CONCLUSION

GPs' interactions with pharmaceutical corporations were evaluated based on a number of characteristics. These variables have the following P-values: cost factor ($p=0.001$), brand efficacy ($p=0.018$), corporate standards (0.002). We came to the conclusion from our investigation that pharmaceutical firms have a part in the medical and health fields. GPs felt that pharmaceutical firms had a role in both their professional development and prescribing practices. Additionally, it was found that although pharmaceutical reps employed promotional techniques to promote their goods, most general practitioners prescribe medications based on brand efficacy.

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