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Research Article

**PERCEPTION OF SENIOR PHARMACY STUDENTS
TOWARDS PHARMACEUTICAL PROMOTION: A CROSS
SECTIONAL ANALYSIS**Muhammad Faheem¹, Fahad Saleem¹, Shehla Iftikhar², Sajjad Haider¹, Qaiser Iqbal¹,
Shanaz Raza³¹Faculty of Pharmacy & Health Sciences, University of Balochistan, Quetta²Center for Nuclear Medicine and Radiotherapy (CENAR), Quetta, Pakistan³Sardar Bahadur Khan Women's University, Quetta**Abstract:**

Objective: The purpose of this study was to determine exposure, attitudes to and acceptance of drug promotion among senior pharmacy students enrolled at Faculty of Pharmacy & Health Sciences, University of Balochistan, Quetta.

Methods: A survey of 5th year pharmacy students using a self-administered questionnaire was conducted. By using a universal sampling approach, all students enrolled in fifth year were targeted for data collection. The questionnaire was composed of 3 parts starting from demographic information; exposure to training about drug company promotion and interactions and exposure to different drug company interactions. Data were entered and analyzed using SPSS v. 20.0.

Results: A total of 116 students completed questionnaires. Students in general held a neutral, either wise slightly positive view towards pharmaceutical promotions. They were exposed to drug promotions during studies; however a formal training is required. A majority of them (72.4%) received teaching about ethics and effects of pharmaceutical promotions. They view textbook as the most appropriate gift (40.5%) and international vacation as the least appropriate gift (10.3%) from pharmaceutical companies. Only 10% of the students reported that they have a personal friendship with a drug representative. Furthermore, nearly 40% were approached by pharmaceutical company representatives when attending their placement.

Conclusion: The results showed that students are exposed during their studies about such marketing activities. It also showed that they tend to have quite positive attitudes towards receiving gifts from industry with neutral view on the ethical implications these brings. Training on the ethics relating to relationships between health professionals and pharmaceutical companies should be included and strengthen in the formal curriculum of pharmacy studies.

Corresponding author:**Muhammad Faheem,**

Faculty of Pharmacy and Health Sciences

University of Baluchistan, Quetta

Email: muhammadfaheemgsk@yahoo.com

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INTRODUCTION:**Background**

The pharmaceutical segment is one of the major and undoubtedly a dominant sector in the business world. The pharmaceutical market has seen tremendous growth in the past decades [1]. Within this context, the literature criticizes pharmaceutical promotion as a decisive issue as at times the promotional methods are not deemed as ethical by the business world [2]. Although huge numbers of resources are allocated for pharmaceutical promotion, it is usually reported that such allocation is mainly for the research & development purpose. However, the ratio of spending on pharmaceutical promotion and revenue generation varies and there is a huge discrepancy reported by various organization [3].

In current practice, the inevitability of rational medicine use actually generate a stipulation where medication prescribers are totally authorized to guarantee quality use of medications [4]. However, it is also a common observation that pharmaceutical promotion and marketing policies can actually hinder the concept of rational use of medication. Pharmaceutical companies do provide valuable information to the prescribers but this is the accountability of the practitioners to ensure that the obtained medicine related information is evidenced based and is unbiased. In the nutshell, the information provided by the pharmaceutical manufacturers should not be the only resource and it must be verified from other sources. It is now known that the promotional activities practiced by the pharmaceutical industries are unethical and they repeatedly present biased and deceptive information hence leading to poor prescribing practices [5, 6]. On the other hand, the importance of pharmaceutical industry is still valid as it is one of the key sources of new medicines and evidenced based information (6). Therefore, that there should be a balance between promotional activities and prescribing patterns and strict ethical compliance must be observed during the process.

In line to what is reported, research in relation to pharmacist interaction with pharmaceutical promotion is least common. This is the pharmacist' job to provide evidenced based education of diseases control, treatment, management and rational therapies. Pharmacists actually act as a bridge between pharmaceutical manufacturers and physicians as they are well versed about medication use and rationality. However, in the healthcare system of Pakistan the expertise of pharmacist are

least reported due a number of reasons. Additionally, the pharmaceutical market is one of the best ever growing market in Pakistan and promotional expenditures are on the rise. However, pharmacy students' attachment or introduction to promotional activities is least focused in the curriculum. Lately, the amended curriculum added the subjects for Pharmaceutical Marketing & Management but this is also minor in nature. We believe that a knowhow of promotional activities is significant theme for future pharmacists and it must be focused as a major subject to improve the specialized decision making of the pharmacists. Moreover, there is no study that purposely focuses on pharmacy students in Pakistan about their attitude and belief towards pharmaceutical promotion. Hence, we aimed to assess the attitude of senior pharmacy students enrolled at University of Balochistan towards pharmaceutical promotional activities adopted by the pharmaceutical manufacturers.

METHODS:***Study designs and settings***

The study was designed as a questionnaire based cross-sectional survey. As University of Balochistan is the only institute offering Pharmacy course in Balochistan, the students enrolled at Faculty of Pharmacy & Health Sciences were targeted for data collection.

Sampling and study instrument

By using a universal sampling approach, all students enrolled in fifth year were targeted for data collection. A self administered questionnaire was developed from extensive literature review. The questionnaire was piloted among 10 students with a reliability value of 0.80. The questionnaire was composed of 3 parts starting from demographic information; exposure to training about drug company promotion and interactions and exposure to different drug company interactions.

Data Analysis

Data were entered and analyzed using SPSS v. 20.0. Based on the nature of research, the data was described descriptively.

Study approval

The study was approved by Departmental Ethics Committee at Faculty of Pharmacy & Health Sciences University of Balochistan. Verbal consent was taken from the students prior to data collection.

RESULTS:**Demographic characteristics of the respondents**

A total of 178 students were approached and 116 responded with a response rate of 65%. As shown in Table 1.

Table 1: Demographic characteristics of study respondents

Characteristics	Frequency (N)	Percentage (%)
Age (years)		
22	109	94.0
23	7	6.0
Gender		
Male	87	75.0
Female	29	25.0

Students' experience with regard to training about drug promotion or contact with pharmaceutical representatives

Only 10% of the students reported that they have a personal friendship with a drug representative. Furthermore, nearly 40% were approached by pharmaceutical company representatives when attending their placement as shown in Table 2.

Table 2: Students' experience with regard to training about drug promotion or contact with pharmaceutical representatives

Items in Questionnaire	Frequency		Percentage	
	Yes	No	Yes	No
Have you received any teaching in your studies about the ethics of drug company promotions?	84	32	72.4	27.6
Have you received any teaching in your studies about the effects of drug company promotions?	84	32	72.4	27.6
Have you ever received any teaching in your studies about how to handle or interpret drug promotional material and/or drug representatives (pharmaceutical company agents)?	64	52	55.2	44.8
Do you have a personal friendship with a drug representative?	12	104	10.3	89.7
Have you ever been approached by pharmaceutical company representatives when attending the placement (pharmacy or rotation)?	45	71	38.8	61.2

Perceived appropriateness of promotional gifts by pharmacy students

Table 3 provides the information on the appropriateness of promotional gifts by pharmacy students. Other than international holidays/vacations, all other promotional gifts were perceived as very appropriate an appropriate by the pharmacy students.

Table 3: Perceived appropriateness of promotional gifts by pharmacy students

	V.A.		A.		Neu.		I.		V.I.	
	N	%	N	%	N	%	N	%	N	%
Pen/notepad	32	27.6	64	55.2	17	14.7	3	2.6	0	0.0
Meal	25	21.6	45	38.8	38	32.8	7	6.0	1	9.0
File	32	27.6	61	52.6	20	17.2	3	2.6	0	0.0
Textbook	47	40.5	35	30.2	28	24.1	4	3.4	2	1.7
Gift	28	24.1	41	35.3	34	29.3	13	11.2	0	0.0
Personal drug sample	29	25.0	39	33.6	31	26.7	14	12.1	2	1.7
Registration fee for a conference	28	24.1	45	38.8	35	30.2	8	6.9	0	0.0
Travel to international conference	42	36.2	44	37.9	20	17.2	7	6.0	3	2.6
Social outing	24	20.7	28	24.1	38	32.8	19	16.4	7	6.0
International vacation/holiday	30	25.9	25	21.6	29	25.0	20	17.2	12	10.3

V.A. - Very Appropriate; A. - Appropriate; Neu - Neutral; I - Inappropriate; V.I. - Very Inappropriate

DISCUSSION:

From the results obtained, 72.4% of students had received teaching in their studies about the ethics of drug company promotion. As ethics of drug company promotions are included in their syllabus, it is not surprising that students had information of

pharmaceutical marketing. Although high proportion of students agreed that they received teachings about ethics and effects of drug promotion, only 55.2% of students reported that they know how to handle or interpret drug promotional material or drug representatives. This

could be due to the weakness in education to impose the importance of proper handling unto the students. Even when teaching about drug promotion was part of the syllabus, the contact time rarely goes more than one or two hours per week [7].

The most common promotional activities encountered by pharmacy students are receiving small, non-educational gifts (69.8%), journal reprints or glossy brochures (50.9%) and drug samples (53.4%). Given the positive attitudes of students toward gifts, it is not surprising that more than 50% of them had received these gifts. Instead of skepticism towards receiving gifts, it is possible that the reason for those who did not do so is because they have not been exposed to these promotional activities yet. It is likely that there is not much opportunity to implement the promotional activity, leading to low percentage of students accepting those gifts [8]. Strict regulation in university could prevent drug companies from advertising in the campus. In general, the proportion of students exposed to pharmaceutical promotion is smaller and is reported in literature [1, 9, 10].

International vacation or holiday was the least favorable gift among pharmacy students. One reason is it is very subjective as it depends on students' acceptance regarding the place. Moreover, this vacation might not be fully sponsored by the organizers so some of them could not afford the expenses. For example, International Association of Students in Economic and Commercial Sciences (AIESEC), an international non-governmental not-for-profit organization that provides young people with leadership development and cross-cultural global internship and volunteer exchange experiences across the globe, with a focus to empower young people so they can make a positive impact on society. They provide international student exchange program but students have to pay their own expenditure [11]. No student thought that pen or notepad, file, gift and registration fee for conference is very inappropriate because they are useful for a student's daily life.

Limitation

Exposure rates of the students towards pharmaceutical promotion may be affected by recall bias and the results rely on self-reporting rather than observation or measurement of actual behavior, leading to inaccuracy.

CONCLUSION:

The exposure and attitudes towards pharmaceutical promotion is investigated and described. The

results showed that students are exposed during their studies about such marketing activities. It also showed that they tend to have quite positive attitudes towards receiving gifts from industry with neutral view on the ethical implications these brings. Training on the ethics relating to relationships between health professionals and pharmaceutical companies should be included and strengthen in the formal curriculum of pharmacy studies.

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