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Attitudes and Behaviors of Psychiatry Residents and Psychiatrists Working in Training Institutes Towards the Relationship Between the Pharmaceutical Industry and Physicians

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Abstract

Objective: *To determine the attitudes and behaviors of psychiatrists and psychiatry residents towards pharmaceutical representatives and their promotional activities, and to evaluate the effect of the duration of residency and type of the training institution on these attitudes and behaviors.*

Method: *A validated questionnaire for assessing the attitudes and behaviors of physicians towards the pharmaceutical industry was administered to psychiatrists and psychiatry residents at regional meetings. Of the 1973 participants, 348 responded.*

Results: *Although there was significant interaction between psychiatrists and pharmaceutical representatives, 50.7% of psychiatrists reported that they thought these interactions had no impact on their prescribing practices. First- and second-year residents agreed more than the other residents and the specialist that pharmaceutical representatives provided accurate information and had no effect on physician prescribing practices. First- and second-years residents agreed less than older residents that pharmaceutical representatives used marketing techniques . The psychiatrists regarded most of the pharmaceutical promotions as appropriate. State hospital staff agreed more than the university hospital staff that the pharmaceutical industry should support educational meetings in their institutions.*

Conclusion: *There was intense interaction—characterized by undefined boundaries—between psychiatrists and the pharmaceutical industry. Most physicians were not provided any guidelines concerning their interactions with pharmaceutical representatives and there was general concern about the necessity of restricting these interactions.*

Key Words: *Psychiatry, Drug Industry, Professional Ethics, Marketing, Drug Prescription*

INTRODUCTION

The global drug industry grows every year, and between 2006 and 2007 it increased by 6.4% to 712 billion dollars (IMS Health, 2008). Turkey is among the top 5 countries for drug industry expansion, with a growth rate of 17.2% (IMS Health, 2008). About 25% of this market consists of central nervous system drugs, and 3 of the 10 most sold drugs worldwide were antipsychotics (IMS Health, 2008). Although the drug industry supports 70% of drug research around the world, its budget allocated to presentation and marketing is 200% of the budget allocated to research and development, and 50% more than the budget allocated for production (Brodkey, 2005). Pharmaceutical presentations and promotional activities aimed at physicians are intense and without limits, and the ethical and legal issues associated with them remain contentious (Buken and Yegenoglu, 2003). In the light of these data, one could surmise that the drug industry allocates a considerable budget to pharmaceutical presentations and promotional activities aimed at psychiatrists.

Several studies showed that pharmaceutical presentations and promotional activities conducted by the drug industry influence the prescribing practice of physicians

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(Wazana, 2000; Zipkin and Steinman, 2005). Civaner (2008) reported that interaction between physicians and pharmaceutical representatives (PRs) resulted in a decrease in rational drug use by physicians, increased drug prescription costs, and increased prescription of new drugs in short order. On the other hand, some studies report that the interaction between physicians and PRs didn't influence their own prescribing practice of physicians, but based on a general evaluation physicians thought that such interactions influenced the prescribing practices of other physicians (Hodges, 1995; Hopper et al., 1997; Steinman et al., 2001; Randall et al., 2005). Studies conducted with patients report that patients didn't approve of PR promotional activities and thought that PR promotional activities affected the physician prescribing practices (Blake et al., 1995; Mainous et al., 1995).

Because the number of pharmaceutical presentations and promotional activities are increasing, the formation of guidelines for these activities and physician education concerning them are essential. In a study conducted in Canada it was reported that trainers working in institutions that had not the guideline applications drawing boundaries for interactions between physicians and PRs thought that psychiatry residents were influenced more by the drug industry during their training than those working in institutions that had the guideline application (Chakrabarti et al., 2002). It was observed that the acceptance of promotional materials that weren't educational decreased after psychiatry residents participated in orientation sessions focused on physician-PR interactions (Randall et al., 2005).

Despite many recent studies that examined physician-PR interactions, and their effects on physician opinions, attitudes, and behaviors, none have been conducted in Turkey. The lack of this kind of studies can be viewed as a deficiency, as Turkey's drug market is one of the world's fastest growing, with a considerable growth rate. The aim of the present study was to evaluate the opinions, attitudes, and behaviors of psychiatrists and psychiatry residents towards PRs and promotional activities carried on by the drug industry. The study also intended to evaluate the effect of the duration of residency and type of training institution on these attitudes and behaviors.

METHOD

Sample

The study sample included psychiatrists and psychiatry residencies at training and research hospitals (state hospitals), and university hospitals. The study was announced and the participants were recruited through the internet by the Scientific Section of Trainees of Psychiatric Association of Turkey. A questionnaire was distributed and collected via e-mail. The questionnaire was sent to 1550 members, and 22 members responded. Additionally, of the 423 questionnaires that were distributed at Bakirkoy Research and Training Hospital for Psychiatry, Neurology and Neurosurgery, Psychiatry in İstanbul, Istanbul University Medical Faculty, Marmara University Medical Faculty, Ataturk Training and Research Hospital in Izmir, Ege University Medical Faculty, Dokuz Eylul University Medical Faculty, and in regional association or drug presentation meetings in Izmir, Antalya, and Eskisehir, 326 were completed and returned. The responses of 42 physicians that completed the study questionnaire, but didn't work in a state or university hospital were not included in the study. In all, 306 completed questionnaires were evaluated; 217 from Marmara region hospitals, 53 from Aegean region hospitals, and 36 from central Anatolia region hospitals.

Assessment Instrument

The validated questionnaire used in the present study, which was developed by

McKinney et al. (1990) in order to determine physicians' attitudes and behaviors towards the drug industry and was re-adapted by Randall et al. (2005), was translated into Turkish. Two of the present study's authors determined whether or not the questions in the translated version conveyed their original meanings in Turkish. Of the 32 questions, the first 10 evaluate physicians' attitudes towards interactions with PRs, and the next 11 questions evaluate their attitudes towards PR promotional activities. The scale uses a 5-point Likert-type scale. The remaining questions aim to evaluate sociodemographic characteristics, the quantity of physician-PR interactions, and the types of promotional materials accepted by physicians.

Statistical Analysis

Frequencies of demographic data, including age, institution, gender, and level of education, and means and frequencies of responses given to the first 21 questionnaire items were evaluated. The paired t-test was used to compare continuous data. Considering level of education as the independent variable and first 21 questionnaire items as the dependent variables, one-way variance (ANOVA) was performed. Tukey's test was used for post-hoc analysis and P values < 0.05 were considered

TABLE 1. Demographic characteristics.

Institution	n	%
Training and Research Hospital	222	72,5
University Hospital	84	27,5
Education (academic year)		
1 year	50	16,3
2 year	56	18,3
3 year	48	15,7
4 year	28	9,2
5 year	22	7,2
Specialist	102	33,3
Age (years)		
≤ 30	162	52,9
>30	134	47,1
Gender		
Male	137	44,8
Female	169	55,2

statistically significant. The statistical package program SPSS v.13.0 was used to analyze all the data.

RESULTS

Of the 306 participants that completed and returned the questionnaire, 204 (66.7%) were psychiatry residents and 102 (33.3%) were psychiatrists. Demographic characteristics of the participants are presented in Table 1. There were fewer fourth- and fifth-year residents than psychiatrists in the study group.

Table 2 lists the responses to the statements that indicated physicians' attitudes towards PRs. Physicians thought that interactions with PRs did not influence their prescribing practices, but they thought that these interactions generally had an effect on other physicians' prescribing practices (mean: 3.27 ± 1.19 and mean: 2.18 ± 0.96, t = –15.537, P < 0.0001). More than 75% of the physicians thought that PRs didn't provide accurate information and used marketing techniques, and thought that promotional activities didn't influence their prescribing practices, that they would maintain their relationships with PRs just the same in the absence of promotions, and that pharmaceutical presentations made by PRs shouldn't be restricted in their institutions.

Physicians' attitudes and behaviors towards promotional activities are summarized in Table 3. Offering drug samples to patients was considered the most appropriate and was the most accepted promotion. Other promotional activities that were approved of were the provision of educational books, office materials, and educational meetings. Three promotional activities that were seen as inappropriate were providing drug samples for individual use, social dinners in restaurants, and providing airline tickets for holiday. On the other hand, social dinners in restaurants were considered appropriate by 29 (9.5%) of physicians and were accepted by 53 (17.3%) of physicians at least once in the last 2 months.

Level of education was considered as the independent variable and physicians were grouped into three categories accordingly: Psychiatrists, first- and second-year psychiatry residents, and psychiatry residents in the last 3 years of residency. Statistically significant results of the analyses are presented in Table 4. The only difference between institutions was that physicians who are working in state hospitals, agreed more that PRs should support conferences and lectures in their institution than the physicians who are working in university hospitals. (mean: 3.68 ± 1.03 and mean: 3.25 ± 1.16, t = 2.945, P = 0.004).

Physicians interacted with PRs 50 (0-1000) times in the last 6 months, and 20 (0-350) times in the last 2 months. In all, 211 (69 %) physicians participated in a presentation made by PRs in the previous 2 months and 78 (36.8%) of the participants asked questions about the presented drug or about the reliability of the information presented. Only 29 (9.5 %) physicians reported that they received information about how to interact with PRs. The number of physicians that asked for rules concerning resident-PR interactions in residency programs was 233 (76.1%).

DISCUSSION

It is obvious that the drug industry carries on intense presentation and promotional activities aimed at physicians, and that these activities create a conflict of interest. The present study is significant because it is the first study conducted in Turkey to focus on psychiatrist-PR interactions, for which pharmaceutical presentations and promotional activities take place most intensively. Nonetheless, the present study has some limitations that should be considered in order to more effectively evaluate the results. The first, and maybe most important limitation, is that even though the participants knew that their responses would be kept confidential, they might have

TABLE 2. Physicians' attitudes towards pharmaceutical representatives.

Questionnaire Items	Score[1]	Participants[2]	
	Mean	n	%
PR[3]s provide accurate and useful information about drugs.	2,81 ± 0,91	74	24,2
Interactions with PRs don't influence physicians' prescribing behavior.	2,18 ± 0,96	39	12,7
PRs took over an important educational role in my institution.	2,14 ± 0,97	35	11,4
PRs use marketing techniques in their interactions with physicians.	4,26 ± 0,79	282	92,2
PRs should support conferences and lectures in my institution.	3,56 ± 1,08	190	62,1
Presentations made by PRs should be forbidden in my institution.	2,34 ± 0,96	42	13,7
An educator that works in my institution should participate as an observer in all presentations made by PRs.	3,82 ± 1,06	224	73,2
I would keep my relationship with PRs on the same level, even without the promotional activities, including social gatherings for dinner.	4,13 ± 0,81	255	83,3
Interactions with PRs don't influence my prescribing practice.	3,27 ± 1,19	151	49,3
PR promotional activities don't influence my prescribing practice.	3,90 ± 1,08	235	76,8

[1]Score: Mean of given responses on the 5-point Likert-type scale (1= absolutely disagree and 5= absolutely agree)
[2]Participants: Participants that responded "agree" and "absolutely agree" (4 and 5) on the 5-point Likert-type scale.
[3]PRs: Pharmaceutical representatives

provided responses that they thought would conform to ethical norms. Secondly, the retrospective nature of the assessments of physician-PR interactions and the quantity of promotions they accepted might have increased the margin of error. Other limitations include the fact that the sample only included physicians that worked in training institutions, no information was obtained about these physicians' work experience before residency training, during which time their first contact with the drug industry took place, and that the actual number and characteristics of physicians that did not complete and return the questionnaire was not known, which might have precluded the sample from representing the general psychiatrist community. The sample in the present study, being the largest sample compared to other studies that have used this questionnaire, is considered a strength. On the other hand, the fact that no validity analysis was performed is another limitation. Additionally, the original version of the validated questionnaire was translated into Turkish; the Turkish translations were made by each author separately and then were compared to each other in order to reach a common language and text. Nonetheless, as in the present study, a study conducted in Canada using the same original questionnaire didn't evaluate total scores, but evaluated each item on the questionnaire separately, so that this limitation didn't have an effect on the study (Hodges, 1995).

Despite the limitations mentioned above, the present study yielded some impressive results. In line with previous studies there was an intense interaction between physicians and PRs, and the level of interaction varied considerably (Acar et al., 2000; Kutlay et al., 1999). This variation can be explained by the personal preferences of the physicians, conditions and limitations of the institutions they worked in, the type of department (inpatient or outpatient clinic) the physicians worked in, and variation in the frequency with which PRs visited the different departments. Similar to previous study results, the present study shows that despite this intense interaction, only 1 in 10 physicians reported that were informed about how to interact with PRs. This finding indicates that educators need to focus more on this subject

TABLE 3. Physicians' attitudes towards promotional activities.

Questionnaire Items	Score[1]	Participants that thought this was appropriate[2]		Participants that accepted at least once in the previous 2 months	
	Mean	n	%	n	%
Drug sample for patients.	4,53 ± 0,72	283	92,5	282	92,2
Medical textbook.	4,45 ± 0,72	279	91,2	237	77,5
Medical pocket book.	4,31 ± 0,70	283	92,5	222	72,5
Office supplies (pen, cup, notebook, etc.).	3,51 ± 1,01	192	62,7	280	91,5
Computer program for patient follow-up.	3,90 ± 0,95	218	98,7	26	8,5
Paid for trip to an educational conference.	3,48 ± 1,10	185	60,5		
Educational meeting with dinner.	3,20 ± 1,04	160	52,3	204	66,7
Educational meeting with lunch (pizza, etc.).	2,99 ± 1,09	128	41,8	152	49,7
Drug sample for individual use.	2,65 ± 1,20	85	27,8	63	20,6
Social gathering for dinner in a restaurant.	1,94 ± 0,99	29	9,5	53	17,3
Airline ticket to vacation spot.	1,66 ± 0,94	22	7,2		

[1]Score: Mean of given responses on the 5-point Likert-type scale (1= very inappropriate and 5 = very appropriate)
[2]Participants that thought that it was appropriate: Participants who responded "appropriate" or "very appropriate" (4 and 5) on the 5-point Likert-type scale.

(McKinney et al., 1990; Hodges, 1995; Sergeant et al., 1996; Randall et al., 2005). Moreover, as the questionnaire items were not open-ended and the questionnaire was not administered face-to-face, the type of education physicians received on this subject; the fact that they might think they got such an education even though they didn't get it should be considered carefully.

Consistent with previous studies, in the present study although physicians thought that marketing strategies were used by PRs and the interactions with PRs affected the prescribing practices of other physicians, they thought that they themselves were not affected by the marketing oriented effects of both the presentation and promotional activities (McKinney et al., 1990; Hodges, 1995; Hopper et al., 1997; Steinmann et al., 2001; Randall et al., 2005;). Thus, the findings of the present study support the notion that physicians have a "magical" belief that their prescribing practices are not affected by PRs, but that their colleagues' might be.

It is striking to note that physicians who just started working in the field of psychiatry, or who are in the beginning stages of their education and therefore can be philosophically defined as "tabula rasa", believe more that PRs provide accurate and useful information about drugs, though they believe less that PRs use marketing techniques. The drug industry knows that consistent attitudes and behaviors towards the drug industry develop in the first years of a physician's career, and they aim to build relationships with physicians during this time; therefore, it would be appropriate to include programs about this subject in existing curriculums (Sandberg et al., 1997; Monaghan et al., 2003).

Although the physicians didn't want PR presentations to be banned, they thought that an educator should participate in such presentations as an observer, maybe because they thought that an educator might help to reach accurate information. The only difference between the institutions was that physicians working in state hospitals supported PR educational meetings in their institutions more than the physicians working in university hospitals. This may have been a result of the limited time and budget allocated to education due to the existing workload in state hospitals.

Similar to the study conducted by Randall et al. (2005), the present study shows that giving drug sample to patients was considered the most appropriate PR promotion. The fact that drug samples are used for the treatment of patients with financial difficulty, in the treatment using new drugs, and in the state of emergency without wasting time, might have contributed to

TABLE 4. Differences related to year of study.

Questionnaire Items	Resident-I[1] (academic years 1-2)	Resident-II[1] (academic years 3-5)	Specialist[1]	
PRs[2] provide accurate and useful information about drugs.	2,99 ± 0,83	2,66 ± 0,99	2,78 ± 0,90	f:3,272 p<0.05[a]
Interactions with PRs don't influence the physicians' prescribing practice.	2,36 ± 1,04	2,19 ± 0,96	1,99 ± 0,86	f:3,842 p<0.05[b]
PRs use marketing techniques in their interactions with physicians.	4,20 ± 0,79	4,05 ± 0,90	4,53 ± 0,59	f:10,119 p<0.001[c,d]
Social gathering for dinner in a restaurant.	2,13 ± 1,08	1,92 ± 0,94	1,76 ± 0,90	f:3,686 p<0.05[b]

[1]Mean of given responses on the 5-point Likert-type scale (1= absolutely disagree, and 5= absolutely agree).
[2]PRs: Pharmaceutical representatives.
[a]Resident-I > resident-II; [b]resident-I > specialist; [c]specialist > resident-I; [d]specialist > resident-II.

the positive evaluation of drug sample promotion. On the other hand, it should be noted that the uncontrolled use of drug samples decreases compliance to treatment guidelines (Monaghan et al., 2003), and following drug sample promotions for chronic diseases, the same drug was prescribed by physicians (Morelli and Koenigsberg, 1992).

In the present study although almost all promotions were considered appropriate, social dinners were seen as inappropriate, yet were still accepted. The fact that more residents in their first years of residency thought that these promotional activities appropriate than the other physicians might be explained by their inexperience, or their wish to have social relationships with other people in new environments.

Contrary to studies of psychiatrists, studies that included internists reported findings consistent with those of the present study; most physicians thought that there should be rules governing resident-PR interactions in training programs (McKinney et al., 1990; Hodges, 1995; Randall et al., 2005). Some studies reported that the guidelines and rules that regulate the relationship between physicians and PRs were quite beneficial. A study conducted in Canada showed that physicians working in an institution without guidelines to regulate physician-PR relationships were affected more by the drug industry during their psychiatry residency (Chakrabarti et al., 2002), and another study reported that with the help of guidelines, physician skepticism towards information provided by PRs increased. and the quantity of interactions and accepted promotional materials decreased (McCormick et al., 2001).

The present study highlights that physicians thought the information they received about how to interact with PRs was insufficient. It is crucial to include this subject into existing curriculums, especially in consideration of the fact that more physicians thought that meetings with PRs and accepting promotions would change their own prescribing behavior after an education on the subject (Shaughnessy et al., 1995; Randall et al., 2005).

CONCLUSION

There exists intense interaction between physicians working in psychiatry and the drug industry in Turkey. In order to improve the attitudes and behaviors of physicians and residents towards the drug industry, educational programs are needed, both during medical and residency training. Although there are some guidelines to regulate physician-PR relationships in Turkey, the application of these guidelines is inadequate. More effective use of the manual prepared by the Turkish Medical Association (TMA) in 2008 to inform physicians about the ethical principals of medical practice, as well as other similar guidelines would help to regulate the interactions between physicians and PRs.

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