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IS THE FAMILY DOCTORS' DRUG PRESCRIBING BEHAVIOR INFLUENCED BY THE RELATIONSHIP WITH PHARMACISTS AND PHARMACEUTICAL REPRESENTATIVES?

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Abstract

The prescription of drugs is influenced by a number of factors. Among them, the doctor-pharmaceutical representative relationship seems to be one of the most important. The purpose of the study: to identify the factors influencing the family doctors drug prescribing. Material and Methods: 65 family doctors were questioned about the practices of prescribing drugs, about their opinion regarding the relationship with the pharmaceutical representative and the promoting tools. Variables like age, work environment (urban, rural), length of employment have been taken into consideration. Results: a total of 33,4% of doctors declared that the pharmaceutical representative provides financial support for their continuing education. More than 1' of doctors sustain that doctor-pharmaceutical representative relationship is important when they prescribe a drug and approximately 30% of them declare they receive informal gifts, samples and different kinds of sponsorship from the pharmaceutical company representatives. Conclusion: family doctors' prescribing is exposed to influences like sponsorships from the pharmaceutical company and they sustain that the relationship is influencing the drug prescribing.

Keywords: family doctor, drug prescribing, pharmacist, pharmaceutical representative, ethics, behavior

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Introduction

Family doctors are supposed to give the first medical evaluation and treatment for patients in need. Most of them are cured and only a part of them are guided to specialists for a second opinion or medical treatment. In the first case, the family doctor is the only source of prescribing drug. In this case, could the patient be sure that the prescribed drug is objectively and correctly recommended and the treatment is personalised for his proper medical needs?

Even if doctors often believe that the professional conduct and the ethical behaviour will protect them by being influenced by other factors, a lot of studies are showing that the pharmaceutical industry has a lot of influence on doctor's drug prescription behaviour (Mintzes et al, 2015). The influencing strategies applied by the pharmaceutical representatives are diverse and their psychological and social methods are used in order to successfully promote the products of their companies. A very complex scientific literature shows how doctor-pharmaceutical representative relationship is influencing the drug prescribing process. Two kinds of tools are used: nonfinancial inducements like the use of deference, the opportunity to be revered as an expert and the opportunity for publication that helps the doctor's career. The financial inducements include honoraria, gifts, speakers' fees, sponsored research or financial support for continuing education (Sah, Fugh-Berman, 2013).

The main objective of the study is to identify the practices of prescribing drugs among family doctors in Romania. Secondly, we were interested in the doctor-pharmacist and doctor-pharmaceutical representative relationships and how theses could influence the practices of prescribing drugs.

Material and methods

A total of 63 family doctors respond to a questionnaire regarding the practices of prescribing drugs and the relationship with pharmacists and medical representatives. Questionnaires were voluntarily filled in by the subjects after signing the inform consent.

The study was approved by "Gr.T.Popa" University of Iasi, Romania and belongs to a larger research regarding the ethical practices of prescribing (by doctors), dispensing (by pharmacists) and promoting (by pharmaceutical representatives) drugs in Romania. Variables like age, work environment (urban, rural), length of employment were taken into account.

Several dimensions were defined by several items, in order to identify doctors' perception regarding drug dispensing practices, the relationship with the pharmacist and the pharmaceutical company representative and the tools used by the last one in the relationship with the doctor and pharmacist. The following items were formulated: (1) means by which the doctor covers the costs of his continuing education and training (sponsorships from the pharmaceutical

industry; sponsorships from the employing institution; national and international projects/grants; personal resources); (2) criteria used by the doctor to prescribe a treatment (the patient’s financial capacity; budgetary limitations from the National Health Insurance House (the possibility of subsidized drugs); drug availability in local pharmacies); (3) the importance of the doctor’s relationship with the pharmaceutical representative in the doctor’s prescription of a certain drug; (4) doctors’ recommendation of OTC products and supplements in addition to the treatment of the given pathology by Rx medication; (5) prescribing drugs with international nonproprietary names (INNs); (6) prescribing INNs and, at the same time, recommending the brand name product; (7) the promoting tools used by the pharmaceutical company representative in the relationship with the doctor; (8) the importance of pharmacist-doctor relationship for dispensing a certain drug; (9) means by which the pharmacist is sustaining the medical continuing education (sponsorship from: pharmaceutical companies, employment institution, grants/projects or personal resources).

We used SPSS programme to analyze the statistical data. We done descriptive statistic in order to identify the mean and the standard deviation and a Spearman correlation study to discover the relationship between variables. The answers were scaled from 1 to 4 (1 = *never*, 2 = *rarely*, 3 = *often*, 4 = *always*).

Results

Demographic data

The family doctors are aged between 31 and 63 years old ($M = 46,33 \pm 9,77$). A number of 28 (44,44%) are male with a mean age of 30,70 years old and 35 (55,56%) are female ($M=33,54$), with 2-38 years of work experience in the medical field ($M=18,08 \pm 10,65$).

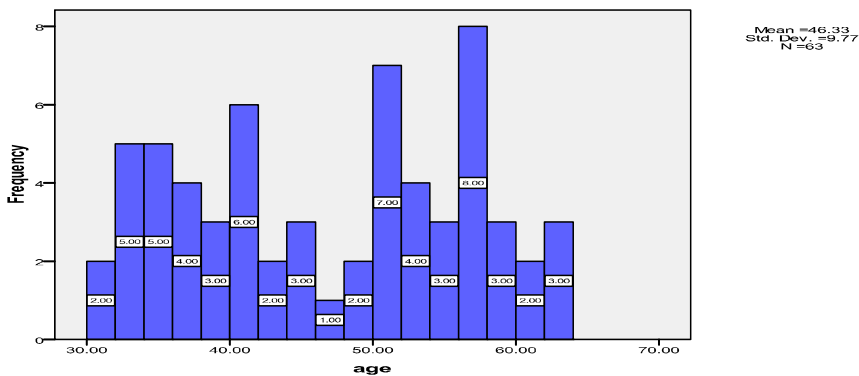


Figure 1. The distribution of family doctors according to the age

Only 4 of them (6,35%) are practicing in the rural area, the majority of the subjects 59 (93,65%) is working in the urban area. The family doctors are from 13 departments of Romania: Bacau (20%), Iasi (1,6%), Vrancea (3,2%), Bihor (4,8%), Botosani (22,2%), Cluj (4,8%), Alba (1,6%), Maramures (12,7%), Bistrita-Nasaud (11,1%), Caras-Severin (1,6%), Salaj (1,6%), Timis (9,5%), Hunedoara (4,8%).

Statistical data

Descriptive statistics

The family doctors were asked about the methods which they cover the costs of their continuing education and training and the frequency of their answers is the following:

- a. sponsorships from the pharmaceutical industry ($M = 2,06 \pm 0,89$), for which never = 31,7% %; rarely = 34,9%%; often = 28,6%; always = 4,8%,
- b. sponsorships from the employing institution ($M = 1,72 \pm 0,84$), for which never = 46%; rarely = 41,3%; often = 6,3%; always = 6,3%,
- c. national and international projects/grants ($M = 1,68 \pm 0,89$), for which never = 55,6%; rarely = 25,4%; often = 14,3%; always = 4,8%,
- d. personal resources ($M = 3,17 \pm 0,75$), for which never = 3,2%; rarely = 11,1%; often = 50,8%; always = 34,9%.

The subjects answered to the item regarding the criteria used to prescribe a treatment and they have to appreciate in what measures they take into account one of the following:

- a. the patient's financial capacity ($M = 2,76 \pm 0,89$), for which never = 11,1%; rarely = 20,6%; often = 49,2%; always = 19%,
- b. budgetary limitations from the National Health Insurance House (the possibility of subsidized drugs) ($M = 2,68 \pm 0,87$), for which never = 7,9%; rarely = 34,9%; often = 38,1%; always = 19%,
- c. the drug's availability in local pharmacies ($M = 2,34 \pm 0,96$), for which never = 22,2%; rarely = 33,3%; often = 31,7%; always = 12,7%.

In order of the importance, the criteria used by the doctors while prescribing a certain treatment to the patients are: the patient's financial capacity, the budgetary limitation and the availability of the drug in local pharmacies. So, regarding all of three criteria, over half of doctors are sustaining that they are being influenced when prescribing a drug.

To identify the doctor-pharmaceutical representative relationship and the influence on the drug prescribing process was one of the goals of the study. The family doctors had to declare in what measure this relationship is important when they have to decide about a drug. The item was questioning about *the importance of the doctor's relationship with the pharmaceutical representative in the doctor's prescription of a certain drug* ($M = 2,95 \pm 0,83$), and the answers were: never = 6,3%; rarely = 17,5%; often = 50,8%; always = 25,4%. So, more than

of doctors are sustaining that doctor-pharmaceutical representative relationship is important when they prescribe a drug.

While giving the treatment for the special disease, they recommend over-the-counter products. The answers to the item *Do you recommend OTC products and supplements in addition to the treatment of the given pathology by Rx medication* ($M = 2.84 \pm 0.67$) were: never = 3,2%; rarely = 22,2%; often = 61,9%; always = 12,7%. We can conclude that approximately 75% of family doctors are recommending supplements and OTC products in addition to the given pathology.

The family doctors were also asked about the *prescribing of drugs using international nonproprietary names (INNs)* ($M = 3,23 \pm 0,73$). The frequency of their answers is: never = 3,2%; rarely = 7,9%; often = 50,8%; always = 38,1%.

Regarding the item that question about the practice of prescribing INNs and, at the same time, *recommending the brand name product* ($M = 3,03 \pm 0,73$), the answers were: never = 1,6%; rarely = 20,6%; often = 50,8%; always = 27%. More than of doctors specifies exactly the drug name.

The subjects were questioned about the pharmaceutical representative promoting tools when they present the products of their companies. The distribution of their answers is presented in Table 1.

Table 1. *The distribution of answers to the item targeting the tools used by the pharmaceutical company representative in his relationship with the doctor*

<i>The pharmaceutical representative is using the following promoting tools in the relationship with the doctor</i>	never	rarely	often	always
informal gifts (flowers, chocolate, etc.)	41,3%	23,8%	25,4%	9,5%
samples	14,3%	55,6%	20,6%	9,5%
sponsorships	23,8%	46%	22,2%	7,9%
a) sponsorships for institutions (hospital, clinic)	19%	33,3%	38,1%	9,5%
b) other informal sponsorships	44,4%	30,2%	20,6%	4,8%
c) participations in clinical studies, market research and observational studies	41,3%	23,8%	30,2%	4,8%

Approximately 30% of the family doctors declare that they receive informal gifts, samples and different kinds of sponsorship from the pharmaceutical company representative. Doctors were also asked about the financial relationship between pharmacists and reps and 44,4% of them declared that they consider that the pharmaceutical companies sustain often the pharmacists' continuing medical education.

The questionnaire asked if doctor-pharmacist relationship is important for drug dispensing. The distribution of the answers is: ($M = 2,81 \pm 0,94$), the answers were: never = 11,1%; rarely = 17,5%; often = 41,3%; always = 22,2%. A total of 7.9% has no opinion about this item. The frequency of their answers shows that 63,5% of the family doctors are sustaining that the relationship with the pharmacist is determining the dispensing of a certain drug.

Correlational study

Statistical significant correlations were identified the influence of variables like age and work experience. Both variables are having negative correlation with the following aspects:

- sponsorship from the employing institution (meaning that younger and less experienced family doctors are more supposed to receive financial support from their institution comparing to older and more experienced colleagues), (for age: $-.358^{**}$, $p = .004$ $0,05$; for work experience: $-.298^*$, $p = .018 \leq 0,05$)
- sponsorship from the pharmaceutical companies, in particular informal sponsorship and possibilities to be part in clinical/market/prospective researches.

Table 2. Significant statistical correlation between variables

Items		Age	Work experience
other informal sponsorships	Correlation Coefficient	$-.321^*$	$-.267^*$
	$P \leq 0,05$.010	.035
	N	63	63
participations in clinical studies, market research and observational studies	Correlation Coefficient	$-.274^*$	$-.260^*$
	$\leq 0,05$.030	.039
	N	63	63

Discussions

From a psychological point of view, the doctor's behaviours were well explained by the different psychological responses that are influencing the relationship with others (patients or pharmaceutical representatives, in our cases) (Redelmeier, Cialdini, 2002): a) *Reciprocation*. It is a source of influence because a doctor who makes a patient feel comfortable is more likely to be taken seriously when offering advice regarding different drugs; b) *Concession*. It is the obligation that the patient feels after someone else has offered a compromised. If the doctor prescribe something that the patient really wanted to take because has a good experience with the drug, the patient is more available to add a drug that the doctor counsels; c) *Consistency*. The "consistency" response leads a patient, once having made a choice, to have a strong tendency to continue with that commitment. This determines the patient to continue with the treatment and assure the continuity of using the same prescribed drug. On the other hand, if the pharmaceutical representative presents the drug as being prescribed by other doctors for similar cases this will push the doctor to use it for similar diagnostics; d) *Endorsement*. The "endorsement" response occurs when a person determines what is correct by copying others relevant to him or her. In case of doctors, the

pharmaceutical representative can use this idea in order to provide the information that the drug is useful in all cases that are similar (It is useful for the most of the patients); e) *Liking*. It is the tendency to respond to agree with the people you like. So, if the patient likes the doctor this will determine to follow the medical indication more quickly. On the other hand, of doctor-pharmaceutical representative is going on this way, this will force the doctor to agree more rapidly to the pharmaceutical company seller's requests; f) *Authority*. It is assuring the power towards those in need. Patients will be more opened to treatment if they perceive the authority of their health-providers; g) *Scarcity*. The "scarcity" response is invoked when opportunities seem valuable because they seem rare. An expensive drug that is not so popular in pharmacies or rarely used because it is very strong and fixes quickly the disease is more accepted to be taken only for these qualities.

Are the family doctors exposed to these risks? And what should they do in order to eliminate them? Is the prescribing drug process an objective one, despite the conscious efforts of the drug prescribers to recommend a treatment in the only benefit of the patient? These dilemmas are surely preoccupying both doctors and researchers. The main goal of the family doctor is to assure the quality of the medical service in the benefit of the patient. The objective recommendation could be sabotaged by the unconscious interest. This is happening for all three parts of the chain: doctors, pharmacists and pharmaceutical representatives (Iorga *et al.*, 2015; Sztankovszky *et al.*, 2015a, 2015b). All three health providers must act in the benefit of the patient and assure themselves that no personal interest or financial reason is influencing the process of providing help to person in need. The results are showing, according to scientific research in the field and previous researches of the authors that the drug prescribing process is influenced by several factors, among them we can identify: personal reasons like financial support for continuing education or offers/gifts from reps, or the relationship with the pharmacist. Most of the doctors in the study are recognizing that they are using other criteria when they prescribe a certain drug: the health policies limitation, the patient's financial status, the availability of the drug in the neighbourhood, the relationship with the rep or with the pharmacist. Also, a large part of the subjects are specifying the name of the drug that they recommend. So, in the one hand, the family doctors are influenced by a large number of factors and, on the other hand, they influence the patient's decision when he had to buy the drug.

Conclusion

A total of 33,4% of family doctors sustain that the pharmaceutical representative provides financial support for their continuing education. More than 1 of doctors are sustaining that doctor-pharmaceutical representative relationship is important when they prescribe a drug and approximately 30% of them declare that they receive informal gifts, samples and different kinds of sponsorship from the pharmaceutical company representative; 63,5% of family doctors are considering that the relationship with the pharmacist is determining the dispensing of a certain drug. These results show that drug prescribing process is influenced by a number of factors and doctors should find ethical, institutional and personal resources in order to diminish the subjectivity in recommending a certain drug.

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