# Pharmaceutical Representatives' Opinion about Pharmacists' Drug Dispensing Practices in Romania and Factors that Influence them

**Laszlo-Zoltan Sztankovszky, Magdalena Iorga**[*]**, Vasile Astaratoae**

Behavioral Sciences, Department of Preventive Medicine and Interdisciplinarity,
University of Medicine and Pharmacy "Gr.T.Popa" Iasi, Romania
*Corresponding author: magdaiorga@yahoo.com

**Abstract**  **The objective** of the research is to identify pharmaceutical representatives' opinions on some practices of drug dispensing amongst community pharmacists in Romania. **Material and methods**: 70 pharmaceutical representatives working with different pharmaceutical companies in Romania answered questions regarding practices of drug dispensing. Different variables were taken into account: age, gender, type of education, and length of employment time. Collected data were analyzed with SPSS 17.0. **Results**: over 70% of the pharmaceutical representatives consider that pharmacists counsel the patient regarding other drug brand names and take into consideration patient financial contribution when dispensing a certain drug. Regarding the relationship of the pharmacist with doctor and rep, 65% of pharmaceutical representatives consider the relationship with the doctor, and 40% the relationship with the rep, important when dispensing a drug. No important differences were identified in relation to the gender or type of education. **Conclusion**: the study provides information regarding pharmaceutical representatives' opinions on practices of drug dispensing. More than 2/3 of the reps consider that pharmacists are counseling the patient regarding a drug to a high level.

*Keywords: pharmaceutical representative, drug dispensing, pharmacist, practices*

**Cite This Article:** Laszlo-Zoltan Sztankovszky, Magdalena Iorga, and Vasile Astaratoae, "Pharmaceutical Representatives' Opinion about Pharmacists' Drug Dispensing Practices in Romania and Factors that Influence them." *American Journal of Public Health Research*, vol. 4, no. 3 (2016): 88-92. doi: 10.12691/ajphr-4-3-2.

## 1. Introduction

One of the most interesting terms used in the last years is "quality of life" (QoL). This multidisciplinary term is targeted by a lot research from different fields such as medicine, sociology, economy, psychology, philosophy or politics [1,2]. The term's approaches are so diverse that it is difficult to identify the exact source of quality of life. If we take into consideration only the World Health Organization's definition we can conclude that our physical and psychological well-being is determined by all aspects of our lives, including personality traits, family context, physical disease, spiritual aspects, economical status, moral principals etc. The quality of life becomes a result of all interactions between the spheres of our lives and it is a question whether those things that are said to measure the level of QoL are determined by us.

A clear situation is the patient QoL. In order to assure it, healthcare and health policies must be constructed for the benefit of the patient alone. But in fact, the patient is only one of the beneficiaries in this broad process of recovery, other kinds of beneficiaries also include doctors, pharmacists and pharmaceutical companies. In the name of patient help, a lot of other stakeholders are receiving more and more profits. The tools used by the pharmaceutical companies focus on patients, doctors and pharmacists. Studies show that an increased number of visits to doctors and pharmacists are correlated with an increased rate of prescribing and dispensing. On the other hand, marketing campaigns on TV for drugs with no prescription are creating a demand for this or that drug or pharmaceutical product, so the patient can go and ask the pharmacist directly for that brand name. Marketing campaigns are directed at patients, pharmacists and doctors in order to increase the demand, especially for newer drugs. The patient's motivation is to access a drug associated with his own perception about the effectiveness of it; pharmacists want to increase the profits, and doctors' behaviour is motivated by the desire to please the patient [3,4,5].

But all stakeholders in fact influence their activities by reciprocity; studies show that doctors' behaviour determines the increase of dispensing drugs or pharmacists' counseling influences doctors' prescribing behaviour [6]. Due to marketing campaigns, the patient becomes an expert and requests a specific drug [7,8,9] so doctors and pharmacists are ready to satisfy him.

Many studies have proved that prescribing and dispensing drugs are not entirely objective and national policies were implemented in many countries in order to assure proper drug use focusing on patients' needs and health [10,11,12] and different tools and practices are used

by the pharmaceutical representative in the relationship with the pharmacists and doctors [13,14,15,16].

The role of the pharmacist has changed, over the years, from the concept of *focusing on dispensing* (the 60s), and *clinical pharmacy* (the 70s), to *pharmaceutical care* (the 90s) and *medication therapy management* (the 2000s MTM model) [17,18,19].

Pharmacists are well prepared to work with a drug molecule, with its formulation and delivery and they have an in-depth knowledge of pharmacology and therapeutics, physicochemical properties of drugs and excipients, biopharmacy and pharmacokinetics, adverse drug reactions and drug interaction. So they are qualified to make professional judgments relating to medicines and to advising on drugs [20].

In Romania community pharmacists have a high social standing, due to fact that (except a small number of pharmacists who are working in state hospitals) most of these professionals are working in private pharmacies, with frequent exposure to the pharmaceutical industry representative's pressure. Part of the information about a drug is presented by the reps and the pharmacist becomes an important information source for the patient when advising on the most appropriate drug. The strategies used by the pharmaceutical representative in his relationships with pharmacists are diverse: sustaining the pharmacist's continuing education, offering discounts, using samples. Pharmacists maintain that this relationship is important for dispensing a certain drug [21].

In our country, doctors' prescriptions mainly include drugs recommended by the *International Nonproprietary Name* (INN), therefore for generic drugs – the pharmacist's role in dispensing a certain brand is highly important because the pharmacists can have different reasons for recommending a certain drug. The motivation for dispensing drugs could be related to the relationship between pharmacist and the pharmaceutical representative.

The purpose of the study is to identify the opinions of pharmaceutical representatives about the practices of dispensing drugs by pharmacists from the independent pharmacies in Romania and to identify whether there is any other aspect determined by the subjectivity in delivering a special drug to the patient.

## 2. Material and Methods

Between January and May 2015, 150 surveys were distributed to representatives of various pharmaceutical companies from several counties in Romania, in order to identify some of the drug dispensing practices of pharmacists.

The surveys were distributed in printed form to pharmaceutical representatives located in 14 county seats in Romania covering 75% of the country, considering that each pharmaceutical representative may conduct business in a maximum of 4 counties. The printed surveys were accompanied by the informed consent paper assuring the subjects of the confidentiality of personal data, the purpose of the study and the method for dissemination of study results. The research was previously approved by the Ethics Committee of the "Gr. T. Popa" University of Medicine and Pharmacy in Iaşi, Romania.

A total of 120 questionnaires were sent back of the 150 distributed to the pharmaceutical representatives. Only 70 were considered for the research, the rest of them were excluded due to the following criteria: not fully filled in and informed consent not signed.

Different variables such as age, gender, county, the pharmacist's working environment (urban-rural), years of practice (length of employment) and type of education (medical/non-medical) were taken into consideration.

The dimensions evaluated during the stage of self-assessment of ethical aspects and drug dispensing practices, as formulated within the survey, are the following: *Dimension 1*: dispensing only the reference price drug; *Dimension 2:* advising the patient on alternatives on other brand names; *Dimension 3*: the importance of the pharmacist's relationship with the pharmaceutical representative, as far as it concerns the dispensing of a drug; *Dimension 4*: the importance of the relationship with the doctor in relation to the dispensing of a drug; *Dimension 5*: means of financial assistance for continuing education and training: Item 1: sponsorships from the pharmaceutical industry, Item 2: sponsorships from the employing institution, Item 3: sponsorships from national or international projects/grants, Item 4: covering costs from personal resources; *Dimension 6:* drug dispensing criteria: a. Depending on the patient's financial contribution, b. Depending on disbursements from the National Health Insurance House, c. depending on the drug's availability in local pharmacies; *Dimension 7*:the recommendation of OTC products and supplements, in addition to the treatment of the given pathology. The items were multiple choice, with answer options on a scale of 1 to 4, where 1 – *never*, 2 – *sometimes*, 3 – *often*, 4 – *always*.

The collected data were processed by means of the statistical processing software *SPSS* (Statistical Package for Social Sciences) version 17.0 for Windows and the following types of statistical methods were used:
- descriptive statistics, which pursued the central tendency and dispersion indicators (the mean and standard deviation),
- the Mann-Whitney test for nonparametric data to compare means and to identify the difference between independent groups of pharmaceutical representatives,
- correlational study, in order to highlight correlations between independent and dependent variables, by calculating Spearman's correlation coefficient.

## 3. Results and Discussions

The number of pharmaceutical representatives is 70, with an equilibrate distribution according to the gender: 36 (51.43%) are women and 34 (48.57%) are males with an average of $35.44 \pm 5.89$. Regarding the age difference between male and female subjects, the age for women is $33.7 \pm 5.81$ and $37.20 \pm 5.54$ for men.

A percentage of 90% (n = 56) work in an urban area, 7.14 (n = 5) in the rural area and 12.86% (n = 9) are working in both rural and urban areas. The distribution by work environment and gender is presented in Figure 1, showing that there is a balanced distribution in the working area according to the gender.
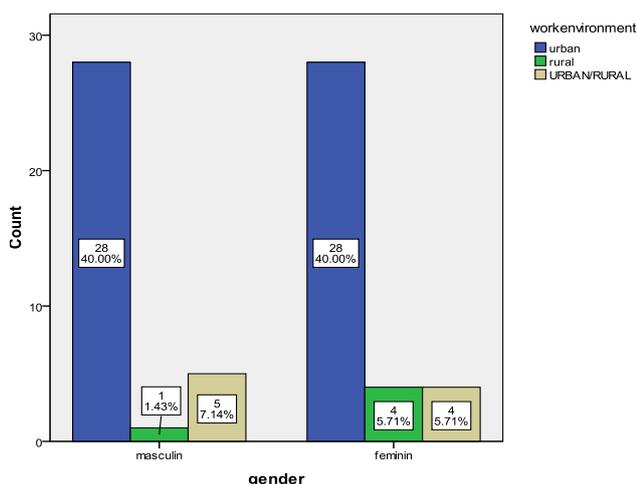
**Figure 1.** Reps' distribution by gender and work environment

The work experience of the subjects is 11.60 ± 5.76, with no gender difference: M = 11.44 ± 6.00 for women and M = 11.76 ± 5.49 for men. The length of employment time for the entire sample is 8.02 ± 4.56 years.

The type of education was another variable considered. A total of 41 (58.57%) of the subjects graduated from medical schools and 39 subjects (41.43%) have other kinds of university studies. The distribution of the subjects according to the type of studies (medical and nonmedical) and gender (male, female) is presented in Figure 2:
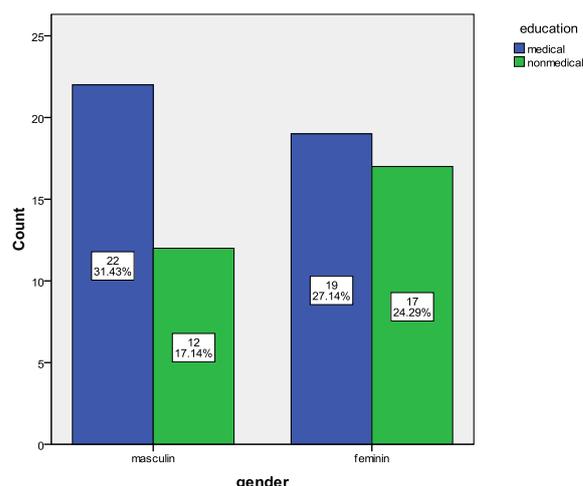


**Figure 2**. Drug reps' distribution by studies and gender

The questioned subjects responded to a questionnaire of 7 items about their opinion regarding the pharmacist's practices of dispensing drugs. Answers are marked on a scale of 1 to 4, where 1 is *never*, 2 is *rarely*, 3 means *often* and 4 means *always (*Means and standard deviations are presented in Table 1)

**Table 1. Mean and standard deviation**

| Questions | | N | Mean | Standard deviation |
|---|---|---|---|---|
| 1. | The pharmacist only dispenses the reference price drug. | 70 | 2.47 | 0.65 |
| 2. | The pharmacist counsels the patient on alternatives regarding other brand names. | 70 | 2.85 | 0.62 |
| 3. | The pharmacist's relationship with the pharmaceutical representative is an important criterion for dispensing a certain prescription drug | 70 | 2.47 | 0.77 |
| 4. | The relationship between the pharmacist and the doctor is important for dispensing a particular prescription drug | 70 | 2.82 | 0.77 |
| 5. | The pharmacist covers the costs of his continuing training by the following means: | | | |
| a. | Sponsorships from the pharmaceutical industry | 70 | 2.52 | 0.89 |
| b. | Sponsorships from the employing institution | 70 | 2.12 | 0.75 |
| c. | National or international projects/grants | 70 | 1.95 | 0.82 |
| d. | Personal resources | 70 | 2.57 | 0.92 |
| 6. | When counselling the patient, the pharmacist takes into account the patient's financial contribution | 70 | 2.75 | 0.71 |
| 7. | The pharmacist recommends over-the-counter (OTC) products and supplements in addition to the given pathology | 70 | 2.92 | 0.62 |

The statistical analysis of the items revealed the following results:

1. With regard to question 1: *Does the pharmacist only dispense the reference price drug?*(M = 2.47 ± 0.65), of the 70 surveyed subjects, 4 (5.71%) declare that the pharmacist never dispenses only the reference price drug, 31 (44.29%) claim this is rarely a fact, 33 (47.14%) subjects believe it is often the case and 2 (2.86%) claim that the pharmacist always dispenses only the reference price drug. Approximately 50% of pharmaceutical representatives consider that pharmacists often/always dispense only the reference price drug.

2. Concerning the second question, *does the pharmacist advise the patient on alternatives regarding other brand names?*(M = 2.87 ± 0.70), 19 subjects (27.14) consider that this is rarely done by the pharmacist, 42 (60%) estimate that the pharmacist often advises in this respect and 9 (12.86%) say he always advises the patient on alternatives regarding other brand names. Almost 72% of pharmaceutical representatives consider the pharmacist advises the patient on alternatives regarding other brand names.

3. The third item targeted the extent to which pharmaceutical company representatives consider that *the pharmacist's relationship with the pharmaceutical representative is an important criteria for dispensing a particular prescription drug* (M = 2.75 ± 0.82). Of all respondents, 4 (5.71%) consider that this aspect is never important, 37 (52.86%) respondents estimate that this criteria is rarely important, 21 (30%) think it often is and 8 (11.45%) think the pharmacist's relationship with the pharmaceutical representative is always important when prescribing a drug.40% of pharmaceutical representatives consider that the pharmacist – pharmaceutical representative relationship is an important criteria, in most cases, for dispensing a prescription drug.

4. For the item which sets out to identify whether *the relationship between the doctor and the pharmacist is important in dispensing a prescription drug* (M = 2.7 ±

0.94), a total of 3 (4.29%) pharmaceutical representatives consider that this relationship is never important when the pharmacist dispenses a prescription drug, 19 (27.14%) consider that this aspect is rarely important, 35 (50%) estimate that it's often important and 13 (18.57%) reps think this aspect is always important for the pharmacist, when dispensing a prescription drug. Over 65% of pharmaceutical representatives consider that the relationship between the pharmacist and the doctor is important in dispensing a prescription drug.

Comparing the answers of the last two items we identified that pharmaceutical representatives believe that the relationship between pharmacist and doctor is more important for dispensing drug than the relationship between pharmacists and reps.

5. Doctors have also been surveyed on their opinion about *the ways in which pharmacists cover the costs of their continuing training.*

**Table 2. Mean and standard deviation for item 5**

| Ways in which pharmacists cover the costs of their continuing training. | N | M |
|---|---|---|
| a. Sponsorships from the pharmaceutical industry | 70 | 2.52±0.89 |
| b. Sponsorships from the employing institution | 70 | 2.12±0.75 |
| c. National or international projects/grants | 70 | 1.95±0.82 |
| d. Personal resources | 70 | 2.57±0.92 |

According to pharmaceutical company representatives, the pharmacist covers the costs of his continuing education firstly from personal resources, by sponsorships from the pharmaceutical industry, by sponsorships from the employing institution and, lastly, by national/international projects/grants (see Table 2).

The frequency of answers to the question about the ways in which the pharmacist covers the costs of his continuing training is the following:

a. For item "sponsorships from the pharmaceutical industry", 11 (15.71%) pharmaceutical representatives estimate that the pharmacist is never sponsored for continuing his training, 19 of them (27.14%) estimate that this rarely happens, 32 (45.71%) estimate that this often happens and 8 (11.43%) claim that the pharmacist's continuing training is always covered by sponsorships from the pharmaceutical industry.

b. For item "sponsorships from the employing institution", 14 (20%) of the surveyed pharmaceutical representatives consider that the employing institution never covers the costs of the pharmacist's continuing training, 35 (50%) claim this rarely happens, 19 (27.14%) consider that the pharmacist often covers the costs of his continuing training with sponsorships from the employing institution and 2 (2.86%) estimate this always happens.

c. Concerning the item which refers to covering the costs of continuing training by national/international projects or grants, the frequency of answers is the following: 21 (30%) respondents estimate that the pharmacist never covers the costs of his continuing training by financial resources obtained from projects or grants, 35 (50%) estimate that this support rarely comes from grants or projects, 10 (14.29%) estimate that it often does and 4 (5.71%) subjects believe that the pharmacist covers the costs of his continuing education by projects and grants.

d. Referring to the answer option with regard to covering costs by "personal resources", 9 (12.86%) consider that the pharmacist never covers the costs of his training with personal financial resources, 24 (34.29%) estimate that this rarely happens, 25 (35.71%) consider that he often does and 12 (17.14%) pharmaceutical representatives estimate that the pharmacist always covers his continuing training with personal resources. Over 50% of pharmaceutical company representatives think pharmacists cover the costs of their continuing training with personal resources and sponsorships from the pharmaceutical industry.

6. Concerning the doctor's opinion about pharmaceutical representatives' view of the fact that, *when advising the patient, the pharmacist takes into account the patient's financial contribution* (M = 2.75 ± 0.71), 4 subjects (5.71%) consider that the pharmacist never takes into account the patient's financial contribution, 16 (22.86%) claim the pharmacist rarely takes this aspect into account, 43 (61.43%) claim he often does and 7 subjects (10%) mention that the pharmacist always takes it into account when counselling the patient about a drug. So, over 70% of pharmaceutical representatives consider that, when counselling the patient, the pharmacist takes his financial contribution into account.

7. Regarding item *The pharmacist recommends OTC products and supplements in addition to the treatment of the given pathology* (M = 2.92 ± 0.72), of all respondents, 16 (22.6%) estimate that the pharmacist rarely recommends OTC products and supplements in addition to a patient's treatment, 43 (61.43%) claim this recommendation is frequent and 11 (15.71%) think the pharmacist always recommends OTC products and supplements in addition to a patient's treatment. Over 77% of pharmaceutical representatives consider that the pharmacist recommends OTC drugs and supplements in addition to the treatment of the given pathology.

We proceed to a comparative analysis of the answers according to the gender (male, female) and educational studies (medical degree or other). Regarding the differences according to the gender variable, the only significant difference was identified regarding the item referring to the means by which the pharmacist sustains the continuing education – grants and projects - with U = 451,500, Z = -2.052, p = ,040 < 0,05, meaning that male subjects appreciate at a lower degree comparing to female reps (M rang = 30,78 *vs* M rang = 39,96).

In what concerns the medical education, no significant statistical difference was identified regarding the answers between subjects with medical education and reps with other kinds of university education.

A correlational analysis revealed that there is a significant statistical correlation between the years of experience in the field and the items referring to the practice of *the pharmacist of advising the patient on alternatives regarding other brand names* a positive correlation was identified (.278*, p = .020 ≤ 0.05).

The results of this study prove that pharmacists are frequently sponsored by pharmaceutical companies for their continuing education, which is demonstrated by the pharmaceutical representative's answers. On the other hand, the reps believe that pharmacists recommend other brand names to patients when they dispense a drug.

The study results show that pharmacists assume the counseling of patients regarding other drugs and also the recommendation of supplements or other over-the-counter products to add to the treatment. The patient receives information about products directly from the pharmacist and can choose between prescribed drug and the offered drug.

As other previous studies prove, the relationship between the three stakeholders (doctors, pharmacists and pharmaceutical representatives) is important for prescribing, dispensing and promoting drugs [21,22].

Further research must focus on reasons for pharmacists choosing to recommend one drug or another and what is the frequency of their reasons and also on identifying the aspects regarding pharmacist – doctor or pharmacist – pharmaceutical representative's relationship that are more likely to influence the dispensing process.

## 4. Conclusions

Approximately 50% of pharmaceutical representatives consider that pharmacists often/always dispense only the reference price drug and also 72% of reps believe the pharmacist counsels the patient on alternatives regarding other brand names. Over 70% of pharmaceutical representatives consider that, when advising the patient, the pharmacist takes his financial contribution into account and over 77% of pharmaceutical representatives consider that the pharmacist recommends OTC drugs and supplements in addition to the treatment of the given pathology.

Regarding the relationship between pharmacists and the other stakeholders, over 65% of pharmaceutical representatives consider that the pharmacist - doctor relationship is important in dispensing a prescription drug and 40% of them think that the pharmacist – pharmaceutical representative relationship is also an important criteria, in most cases, for dispensing a prescription drug.

According to pharmaceutical company representatives, the pharmacist covers the costs of his continuing education firstly from personal resources, then with sponsorships from the pharmaceutical industry, with sponsorships from the employing institution and, lastly, with national/international projects/grants (more than 50% of reps think pharmacists cover the costs of their continuing training with personal resources and sponsorships from the pharmaceutical industry).

## Acknowledgement

## References

[1] Hirsh, H., Coen, M.H., Mozer, M.C., Hasha, R. and Flanagan, J.L, "Room service, AI-style," *IEEE intelligent systems*, 14 (2). 8-19. Jul.2002.

[2] Barcaccia, B., Esposito, G., Matarese, M., Bertolaso, M., Elvira, M., De Marinis, M. G. "Defining quality of life: a wild-goose chase?" *Europe's Journal of Psychology*, 9(1). 185-203. 2013.

[3] Bielderman, A., de Greef, M. H. G., Krijnen, W. P., van der Schans, C. P. "Relationship between socioeconomic status and quality of life in older adults: a path analysis,"*Quality of Life Research*, 1-9. 2014.

[4] Avorn, J. Solomon, D. H. "Cultural and economic factors that (mis) shape antibiotic use: the nonpharmacologic basis of therapeutics," *Annals of Internal Medicine,* 133(2). 128-135. 2000.

[5] McKinlay, J. B., Trachtenberg, F., Marceau, L. D., Katz, J. N., Fischer, M. A. "Effects of patient medication requests on physician prescribing behavior: results of a factorial experiment," *Medical care*, 52(4). 294-299. 2014.

[6] Ostini, R., Hegney, D., Jackson, C. &Tett, S. E. "Knowing how to stop: ceasing prescribing when the medicine is no longer required," *J Manag Care Pharm*, 18(1). 68-72. 2012.

[7] Kaiser, B., Schmid, C. "Does physician dispensing increase drug expenditures? Empirical evidence from Switzerland. Health economics," 2014.

[8] Fox, N. J., Ward, K. J., O'Rourke, A. J. "The 'expert patient': empowerment or medical dominance? The case of weight loss, pharmaceutical drugs and the Internet," *Social Science & Medicine,* 60(6). 1299-1309. 2005.

[9] Lorig, K. "Partnerships between expert patients and physicians," *The Lancet*, 359(9309). 814-815. 2002.

[10] Shaw, J, Baker, M. "Expert patient — dream or nightmare? The concept of a well informed patient is welcome, but a new name is needed," *BMJ: British Medical Journal*, 328(7442). 723-724. 2004.

[11] Kisa, A. The Performance and Problems of the Turkish Pharmaceutical Industry: Is there a need to develop a national drug policy? Journal of medical system 2001; 25:5:309-318.

[12] Wang, D., Thumula, V., Liu, T. C. ""Are physician dispensing reforms sustainable?" http://www.wial.com/documents/2015/04/wcri-paper-2.pdf Retrieved at 10 June 2015.

[13] Hussain, A., & Ibrahim, M. I. M. "Medication counselling and dispensing practices at community pharmacies: A comparative cross sectional study from Pakistan," *International journal of clinical pharmacy,* 33(5). 859-867. 2011.

[14] Dueñas, G. G., Pringle, J. L. Physician perceptions of pharmacist-provided medication therapy management: qualitative analysis. Journal of American Pharmacists Association 2010; 50:67-71.

[15] Muijrers, P. E., Grol, R. P., Sijbrandij, J., Janknegt, R. &Knottnerus, J. A. Differences in prescribing between GPs. Impact of the cooperation with pharmacists and impact of visits from pharmaceutical industry representatives. Family Practice 2005; 22:6:624-630.

[16] Rosenthal, M. B., Berndt, E. R., Donohue, J. M., Frank, R. G., Epstein, A. M. "Promotion of prescription drugs to consumers," *New England Journal of Medicine*, 346(7). 498-505. 2002.

[17] Sztankovszky, L.Z., Soponaru, C., Iorga, M., Astarastoae, V. "Pharmacists' and doctors' perception of pharmaceutical representative's ethical practices of drug promotion in Romania. A comparative study," *Postmodern Openings*; 6(1). 189-199. 2015.

[18] Beatty, S. J., McCormick, K. M., Beale, D. J., Bruggeman, A. M., Rodis, J. L., Mehta, B. H., Bennett, M. S. "Current trends in outpatient pharmacy services and billing," *Journal of the American Pharmacists Association,*52(2). 154-160. 2012.

[19] Doucette, W. R., McDonough, R. P., Mormann, M. M., Vaschevici, R., Urmie, J. M., Patterson, B. J. "Three-year financial analysis of pharmacy services at an independent community pharmacy," *Journal of the American Pharmacists Association,* 52(2). 181-187. 2012.

[20] Lopez-Trigo, P., Khanfar, N. M., Alameddine, S., Harrington, C. "Banning Tobacco Sales at the Retail Pharmacy: Natural Evolution of Drug Store as Responsible Health Provider Or Effective Marketing Strategy?" *Health marketing quarterly*, 382-393. 2015.

[21] Harding, G., Taylor, K. M. G. "Pharmacy's strength lies in its blend of clinical, scientific and social skills," *Pharmaceutical Journal*, 273. 126. 2004.

[22] Iorga, M., Sztankovszky, L.Z., Soponaru, C., Gardikiotis, I. "Pharmacists's attitudes and practices regarding drug dispensing in Romania," *Revista Farmacia,* 63(4). 601-606. 2015.

[23] Sztankovszky, L. Z., Iorga, M., Diaconescu, S., Astarastoae, V. "Is the Family Doctors' drug Prescribing Behavior Influenced by the Relationship with Pharmacists and Pharmaceutical Representatives?", *Social Research Reports*, 27. 88-95. 2015.