

COUNSELING PROVIDED BY THE PHARMACIST IN ROMANIAN COMMUNITY PHARMACIES: THE PATIENTS' PERSPECTIVE

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Abstract.

Background and aims. Patient education is a critical task that may be carried out by the pharmacists, especially in the context of contemporary pharmacists' roles, which tend to be closer to patients and their needs. This study aimed to evaluate the counseling provided by the pharmacist in the community pharmacy, from the patient's perspective.

Patients and methods. We conducted a prospective, non-interventional study in 520 pharmacies from 10 Romanian counties across the country. The first 10 visitors of the pharmacy on a given day were asked to complete a questionnaire regarding the counseling provided by the pharmacist during the visit.

Results. More than 90% of patients received advice from the pharmacist on the route of administration, use in relation to meals, dosage and length of treatment. More than 80% of the patients were counseled on the medicine contraindications and precautions, interactions with other medicines and food, side effects, additional changes in lifestyle and diet appropriate to the condition and the necessity to immediately consult a doctor/pharmacist in case of adverse drug reactions. Lower percentages were registered for advising the patient on the obligation to return to pharmacy the unused psychotropic drugs (38.04%) and the ability of the drug to modify the laboratory results (47.66%).

Conclusions. The results of the present study showed that the counseling activity in the community pharmacy is carried out by the pharmacists in a high proportion, according to the patients' feedback.

Keywords: patient counseling, community pharmacy services, medication therapy management.

Background and aims

Pharmaceutical practice beyond drug dispensing is the main element in several key concepts related to the use of pharmacist's specialized knowledge of medicines for the purpose of promoting effective and safe drug therapy.

One of these concepts is *rational use of drugs* (RUD) which, according to World Health Organization (WHO), requires that the patients receive "medicines appropriate to their clinical needs, in doses that meet their own individual

requirements, for an adequate period of time, and at the lowest cost to them and their community" [1].

The pharmacist's involvement in promoting RUD is increasing together with the change of the pharmacist's role, from mainly compounding and dispensing the medicines, to identifying, preventing, and resolving drug-related problems, as well as encouraging proper use of medication, and general health promotion and education [2]. Such activities can be accomplished through more active and participative role of the pharmacist in medication-related consultation activities [3,4,5,6,7] with the development of patient-specific care plans, therapeutic schemes and

informing the patient about additional preventive therapies. Through these activities, pharmacists can provide patients with adequate information at the time medications are dispensed and help them understand the intended effects as well as the side effects of their drugs [8].

Previous studies have generally found favorable evidence for pharmacist consultation services on various outcomes such as patient medication adherence [9,10], reduction of hospital admission, mortality, and overall health care costs [11,12]. It was showed that RUD may be supported successfully by pharmacists in certain circumstances like purchasing over-the-counter (OTC) drugs [13], OTCs use in pregnancy [14], antibiotics use [15] and elderly patients [16], as pharmacists are most often the last health care professional in contact with the patient.

Patient education is a critical task which can be carried out by the pharmacists in every clinical practice setting, by providing the patients with the knowledge and in some instances, the skills to effectively handle their medical condition [17].

A pharmacist in any practice setting who does not offer direct consultation to the patient is not providing adequate pharmaceutical services, according to the Good

Pharmaceutical Practice Regulations [18].

As previously showed, the community pharmacists' role is changing and tends to be closer to the patient and her/his needs. This study aimed to evaluate the counseling provided by the pharmacist in the community pharmacy, from the patient's perspective.

Patients and methods

Study design, protocol and patients

We conducted a prospective, non-interventional study in community pharmacies across the country: 520 pharmacies from 10 Romanian counties were included in the study, regardless of location (urban/rural) or statute (independent/chain-pharmacies). The 520 pharmacies included in the analysis represent 30% of the total number of pharmacies in the counties included in the study and 9.8% of the total number of pharmacies in Romania.

Each rural pharmacy received via email 10 questionnaires and each urban pharmacy received 20 questionnaires to be completed on the following day by the first 10/20 visitors of the pharmacy. The questionnaires were distributed by the pharmacist to each participant at the end of their visit. The participants were informed about

Table I. Demographic characteristics of the respondents

Respondent's characteristics	Percentage of the total number of respondents (95% CI)
Quality of the respondent	
Patient	74.27 (72.74-75.75)
Relative	16.71 (15.45-18.03)
Caregiver	3.09 (2.52-3.74)
Other (friend/neighbor)	6.39 (5.58-7.28)
Gender	
Females	62.49 (60.8-64.14)
Males	33.42 (31.82-35.07)
Age (years)	
18-30	24.31 (22.86-25.82)
31-45	27.85 (26.34-29.42)
46-65	28.55 (27.02-30.13)
> 65	18.68 (17.37-20.06)
Marital status	
Married	65.18 (62.73-67.54)
Not married	6.36 (5.21-7.72)
Divorced	5.77 (4.68-7.08)
Widow/er	21.66 (19.64-23.82)
Education level	
Primary school	6.22
Gymnasium	6.71
Vocational school	15.24
High school	26.36
Post high school studies (not University)	17.07
University/graduate education	25.33
Postgraduate education	3.08

CI: confidence interval

All percentages were calculated referring to the total number of respondents. Percentages missing to 100 when summing up each category mean that were participants not responding to that item.

the purpose of the research and that the completion of the questionnaire was not mandatory. The questionnaires were anonymous and included closed questions regarding the demographic characteristics, education level, chronic conditions, medicines they were using and the reason for the visit to the pharmacy. Also, the counseling provided by the pharmacist was investigated through 16 closed questions. The items regarding counseling were selected based on the Good Pharmaceutical Practice Regulations [6] and were referring to specific actions that the pharmacist would have to take in order to improve the patient's knowledge and adherence to therapy with the solicited medicine in the purpose of rational drug use.

Questionnaires that were meant to be completed by the pharmacist that advised/attended the patient, including the same items regarding the patient's counseling, were sent as well. Matching of the questionnaires was done based on the code given to a patient's visit (same code for patient's and pharmacist's form). Below we present the results from the patients' questionnaires.

Statistical analysis

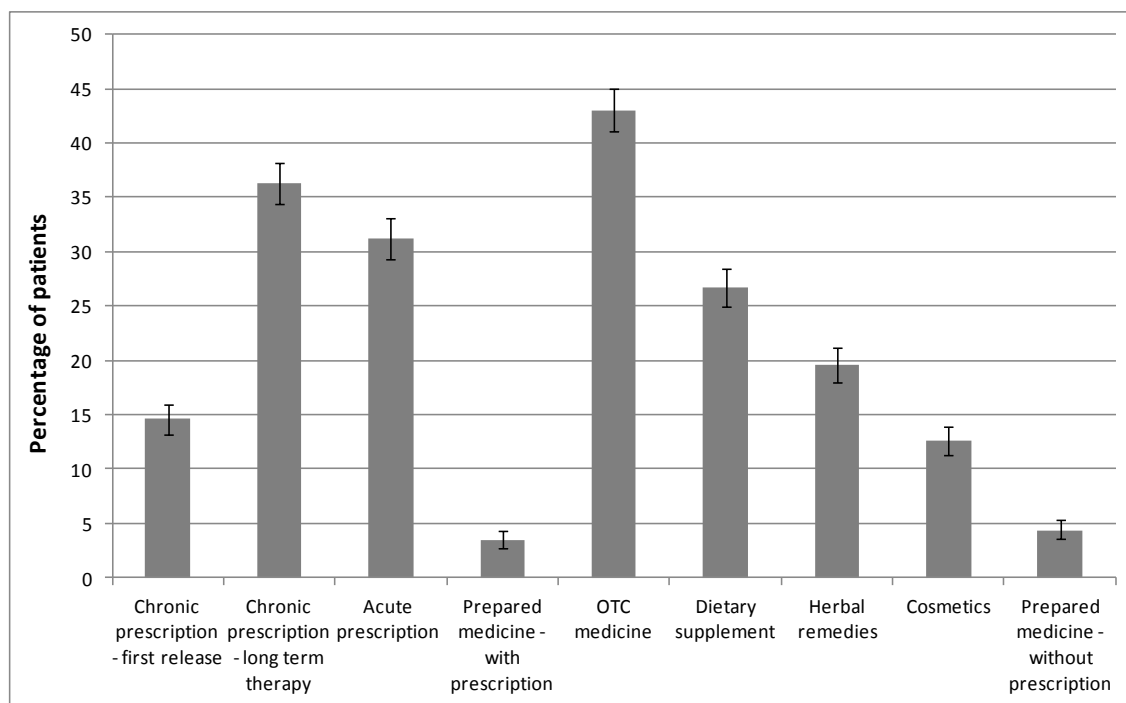
The unit of analysis was a single questionnaire. All collected data regarding participants' characteristics, medication prescribed and the counseling provided by the pharmacist were included in the analysis. Descriptive statistics were used to analyze all variables and data are presented with 95% confidence intervals (CI).

Results

Of 3,303 participants from 520 community pharmacies, 2,453 (74.27%, CI: 72.74-75.75) were patients, and 850 were relatives, caregivers or in other relationship with the patient. Most of the respondents were in the 46-65 years (28.55%) and 31-45 years (27.85%) age ranges, and 62.49% were female. Regarding the level of education, most of the respondents graduated high school (26.36%), followed by the ones with a university degree (25.33%) (Table I).

A number of 1,252 (51.04%) patients answered that they suffered from conditions that required long-term treatment. Of these patients, 51.28% were using 1-3 medicines regularly, followed by 39.70% who were using 4-7 medicines and 8.71% who were using more than 7 medicines (4 [0.32%] patients who responded "yes" to the question if they suffered from conditions that required long-term treatment did not provide the number of medicines they were using).

To the question regarding the medicines they were currently using (for chronic conditions or not), most of the patients responded that they knew the name of their medicines (68.37%, CI: 66.48-70.2), the usage (54.57%, CI: 52.57-56.55) and the reason they took the medicines (54.49%, CI: 52.49-56.47). However, lower percentages of the patients were aware of the concentration of the medicines they used (35.28%, CI: 33.38-37.21), the contraindications



Error bars represent 95% confidence interval.

Figure 1. Reasons for patients' visit to the pharmacy

and precautions of the medicines (23.82%, CI: 22.14-25.55) and possible unwanted side effects (17.94%, CI: 16.44-19.52). Also, 59.42% (CI: 57.37-61.45) of the patients responded that they used medicines that were not prescribed by a doctor (self-medication).

Most of the participants in the study came to the pharmacy with the purpose of taking the prescribed medication (57.27%, CI: 55.56-58.96), followed by the ones that came with symptoms for which they did not go to the doctor and asked for treatment (31.53%, CI: 29.94-33.14), the ones that needed further clarifications regarding their treatment (6.81%, CI: 5.98-7.73) and patients who identified a problem in their therapy (2.67%, CI: 2.14-3.28). Among other reasons for the visit at the pharmacy were: buying medicines or other health products for someone else, the possession of a fidelity card, driven by a TV commercial, wound disinfection and diet advice for weight loss.

Regarding the patients' prescriptions, most of them were for chronic conditions with long term therapy (36.28%, CI: 34.38-38.22) and acute conditions (31.19%, CI: 29.36-33.06); 14.64% (CI: 13.44-15.88) were chronic prescriptions to be released for the first time and 3.51% (CI: 2.81-4.31) were prescriptions for drug compounding.

Other products that were purchased from the pharmacy were over-the-counter (OTC) medicines; herbal remedies, cosmetics and vitamins (Figure 1).

During their visit to the pharmacy participants bought medicines that were recommended by a physician (with/without prescription, 59.81%, CI: 58.12-61.49), by a pharmacist (42.52%, CI: 40.83-44.23), by a relative/friend who was not a physician/pharmacist (6.12%, CI: 5.32-6.99) or persuaded by a commercial (12.7%, CI: 11.58-13.89). The same patient could be in different situations with

regard to different medicines.

Type and extent of counseling provided by the pharmacist during the patient's visit to the pharmacy is listed in Table II.

Most of the respondents (47.65%) estimated that the time spent with the pharmacist was 5-10 minutes. 95.85% of the patients stated that they received all the information they needed from the pharmacist while 76.51% of participants were satisfied of the interview with the pharmacist at the highest level (5 on a 1-5 scale).

Discussion

The objective of this study was to show to which extent counseling was provided by the pharmacist in the community pharmacy, from the patient's perspective. As the pharmacy profession continues to shape its role in the health care system, effective pharmacist-patient relationships can provide a foundation for pharmacists to establish pharmaceutical care [19] and concordance [20] models of patient care, as well as provide drug therapy management services in their practices, where the ultimate goal is to optimize patient care outcomes.

In Romania patients can choose the pharmacy where to take the medicines from, so the interaction between the patient and the pharmacist is clearly critical for the proper use and understanding of medicines and for choosing a pharmacy over the others.

Demographic characteristics of the respondents to the questionnaires in this study showed a similar participation from all age groups (range between 19-29% in each age group, table 1), with different levels of education and marriage status, so our results could be applicable for the general population.

The patients' responses to the items regarding

Table II. Patient's view on the type and extent of counseling provided by the pharmacist

Item of counseling by the pharmacist	Number (%) of patients responding "YES"
Medicine's route of administration	2,344 (95.56)
Medicine's usage with regard to meals	2,250 (91.72)
Medicine's dose, time interval between doses and length of the treatment	2,292 (93.44)
Medicine's contraindication and precautions	2,146 (87.48)
Medicine's interactions with other medicines and food	2,000 (81.53)
Medicine's side effects	2,131 (86.87)
Medicine's ability to modify the laboratory results	1,169 (47.66)
Medicine's storage conditions	1,828 (74.52)
Stopping the medicine at the expiring date	1,736 (70.77)
Additional changes in lifestyle and diet appropriate to the condition	1,982 (80.80)
Immediately consulting a doctor/pharmacist in case of adverse drug reactions	2,056 (83.82)
Encouragement to return to pharmacy for monitoring of the therapy	1,843 (75.13)
Obligation to return to the pharmacy unused narcotic/psychotropic drugs	933 (38.04)
Treatment scheme was provided by the pharmacist	2,095 (85.41)

All items were expressed as closed questions (YES/NO answers).

All percentages were calculated referring to the total number of patients (n=2,453). Percentages missing to 100 when summing up each category mean that there were patients not responding to that item.

their treatment showed that most of them were aware of the name, usage and the reason for taking the medicines and less of the concentration, contraindications and precautions and possible unwanted side effects. The lack of knowledge on these points could be covered in the pharmacist's interview. Although results from other studies showed that neither physicians, nor patients, believed that pharmacists had a significant role in patient counseling and medication monitoring [21], another study has shown that the counseling on aspects regarding the side effects of drugs are considered (by the pharmacists and the patients as well) to be traditional roles of the pharmacist [5].

Patients that came to the pharmacy with medication recommended by the physician were around 60% of the respondents. This would lead to the fact that a great part of the pharmacy's visitors rely on the pharmacist's judgment for taking a medicine or not, requesting the pharmacist's help for recommending a medicine or just trying to buy medicines on the recommendation of a relative/friend which is not a physician/pharmacist, or persuaded by a commercial (around 19% of the respondents in the present study were in one of the latest situation with regard to at least one medicine). The input of the pharmacist in the situation when the patient is coming to the pharmacy and requests a medicine recommended by another person (not a healthcare professional) or a commercial is crucial. Self-medication can be a problem in many countries with important consequences to the patient's safety. Percentages of patients self-medicating is ranging from 43.5 to 81% [22]. Patients should be advised to avoid practicing self-diagnosis and self-medication or at least encouraged to consult with the pharmacist to ensure effective and safe treatment.

With regard to the counseling activities of the pharmacist, we found the highest percentages (above 90%) were for patients receiving advice from the pharmacist on the route of administration, the usage in relation to meal schedule and dosage and length of treatment. The results are higher than the ones of *Hamoudi et al.* who found that 72% of the patients responded "yes" to the question "Does the pharmacist give you full instructions and explanation on how to use the medicines?" [8].

On the items referring to the safety of the medicines (contraindications and precautions, drug interactions, adverse drug reactions) around 80% of the participants responded that they received advice from pharmacist. It is important that advice related to drug safety is given to patients even if not requested, as it has been shown that 34% of patients do not ask about possible side effects of the drugs, and 26% of the patients are not aware of the fact that all medicines could have side effects [22].

Around 70% of the participants responded "yes" on the items referring to the counseling offered by the pharmacist on the expiry date and storage of the medicines. The lowest counseling seemed to be given on returning

unused psychotropic/narcotic medicines to the pharmacy. Pharmacists should be advising patients on the storage conditions for the medicine and not to use the medicines after the expiry date, as it was showed that 17% of the patients admitted to use medicines after the expiry date [22], while 40% of medicines in the patients' homes are expired [23].

The therapeutic scheme is an important part of the pharmaceutical care plan for each patient and it contributes a lot to patients' adherence to therapy [18]. In our case 85% of the participants responded that they had been provided with a therapeutic scheme, which is a high percentage, due to the fact that a proportion of the patients had the scheme already prepared by the prescribing physician.

Overall, the study showed that in the patients' opinion counseling activities were performed by the pharmacists to large extent. A great proportion of the respondents received all the information they needed from the pharmacist and were satisfied in the highest degree by the interview with the pharmacist.

These results could be the effect of the training of the pharmacists and enriching the University curricula with Pharmacotherapy, Clinical Pharmacy and Pharmaceutical Assistance courses which include communication training [24].

Limitations:

An important limitation of our study would be that our results could be influenced by the fact that pharmacists could have been reading the questionnaires before handing them to the patients, and therefore they might have been inclined to offer counseling to the patients more than usually.

Some of the items were designed for a brief response and this fact could have led to patients responding to a question but being actually unaware what exactly the question was referring to. Also, the answers registered in the questionnaires represent the patients' subjective opinions which may be affected by the fact that the patients completed the questionnaires in the pharmacy.

The questionnaire was designed by the authors, it was not psychometrically evaluated and no reliability index is available.

Conclusions

The results of the present study show that the counseling activity in a community pharmacy is carried out by the pharmacists in a high proportion (higher than any other literature results), according to patients' feedback. Improvement would be needed with regard to counseling provided on the expiration date of the medicines and returning to the pharmacy the unused narcotic/psychotropic medicines.

Another study where patients would be assisted in completing the form by a person trained in communication, other than the pharmacist, would be needed to validate

these results.

Pharmacy services and the counseling activity especially must be further carried on in the community pharmacy so that the pharmacist can be perceived by patients and society as a valuable health care professional for improving health outcomes of the patients.

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