

ORIGINAL RESEARCH

The pharmacy practice of community pharmacists in Turkey

Hale Z. Toklu¹, Ahmet Akici², Şule Oktay², Sanda Cali³, Sena F. Sezen¹, Meral Keyer-Uysal¹

ABSTRACT: Good pharmacy practice in community pharmacies (CP) is essential in promoting the rational use of drugs (RUD). The aim of this study was to evaluate the quality of pharmacy practice in CP according to RUD principles. The following data were a part of an interventional study in which 84 community pharmacists in the Umraniye district of Istanbul were evaluated by face to face interviews and an unannounced simulated case scenario in 2002. The average dispensing time, dispensing practice, and adequate labelling were evaluated as rationality indicators. Our results showed that 32% of the pharmacists were not present in their pharmacies during the simulation studies. Only 40.5% of the prescriptions were dispensed by the pharmacists. Forty four percent of the pharmacy employees had no more than a primary school degree. Half of the patients applying to a pharmacy had no prescription. The average dispensing time for a single drug was 149 seconds in simulated cases although the pharmacists declared 287 seconds in the questionnaires. All pharmacists reported that they explained to the patients how to administer their drugs but only 43% of the prescriptions were adequately labelled and only 6.5% included a verbal warning by the dispensers of possible interactions. In conclusion, good pharmacy practice was poorly applied in CP in the selected district of Istanbul. Since most patients consulted a pharmacist for their medication (with or without a prescription), it seemed that continuing education would be essential for pharmacists and pharmacy employees in promoting RUD.

KEYWORDS: Rational use of drug, Pharmacy practice, Community pharmacist, Prescription, Dispensing time, Dispensing score.

INTRODUCTION

In the last century the pharmacy profession consisted of compounding and dispensing medicines. As the compounding functions were significantly reduced in the last decade, the new role of the profession needed to be developed (1). The role of the today's pharmacists needs to be expanded to include pharmaceutical care concepts, making the pharmacist into a healthcare professional rather than a shopkeeper in a commercial enterprise (2). The mission of a pharmacy practice is to provide medications and other health care products and services and to help people and society to make the best use of them (3, 4).

Effective therapy with prescribed medicines requires a collaborative process that includes physicians and pharmacists. Possible errors about the medication can be detected and reduced by pharmacists' interventions (5-10). The pharmacist is often the last member of the health care

team to see the patient, before the patient starts using the drug. Additionally, pharmacists are accessible to patients, often seeing them on several occasions between routine physician visits. Therefore, it is the pharmacist's responsibility to ensure the safe and appropriate use of the medication by the patient (11-14).

The prescription order is a part of the professional relationship between the prescriber, the pharmacist and the patient (15). Correct prescribing does not guarantee that the drugs are used properly. Reasons for non-adherence may be inadequate drug information, inadequate labelling, lack of money, and cultural perceptions about drugs (16). Information is as important as the appropriateness of the medicines themselves. The pharmacist must provide the necessary information and guidance to assure the patient's compliance in taking the medication properly (15).

AFFILIATIONS

¹Marmara University School of Pharmacy, Department of Pharmacology, Istanbul, Turkey

²Marmara University School of Medicine, Departments of Pharmacology and Clinical Pharmacology, Istanbul, Turkey

³Marmara University School of Medicine, Department of Public Health, Istanbul, Turkey

Sule Oktay; Emeritus
Present address: KAPPA Consultancy Training Research Ltd, Istanbul
Sena Sezen;
Present address: Johns Hopkins Medical Institutions, Baltimore, USA
Meral Keyer Uysal; Emeritus.

CORRESPONDENCE

Hale Zerrin Toklu, PhD.
E-mail:
haletoklu@yahoo.com

Received:
December 16, 2009

Revision:
December 23, 2009

Accepted:
December 23, 2009

TABLE 1. Calculation of the total dispensing score (Maximum score = 16)

Verbal information (1 point for each, 12 points total)	<ul style="list-style-type: none"> • Drug's name • Pharmaceutical dosage form of the drug • Dosing of the drug • Purpose of the drug • Instructions about medication • Duration of medication • Drug interactions • Food interactions • Possible side effects • Contraindications • Storage conditions • Importance of compliance
Written information (1 point)	No/ wrong/ inadequate written information: 0 Adequate written information: 1
Information after the interaction question (2 points total, 1 point for dairy products and 1 point for antacids)	No/ wrong information: 0 Correct information: 2
proper dispensing and availability (1 point)	<ul style="list-style-type: none"> • The prescribed drug or its equivalent was given after informing the patient: 1 • Another unequivalent drug was given without informing the patient: 0

Providing healthcare should now include provision of appropriate information, explanation and emotional understanding of the patients (17). More effective, fact-based information on drugs could possibly bring a more positive attitude towards drugs, leading to better compliance (18). The responsibility for noncompliance should be directed at the physician and/or pharmacist if they fail to give the patient adequate instructions or present them in a manner he does not understand (19).

Irrational use of drugs is a common problem in many countries, especially in developing countries (20), since in many developing countries community pharmacies are the main source of drugs. Rational use of drugs (RUD) requires that patients receive medications appropriate to their clinical needs, in doses that meet their own requirements, for an adequate period of time and at the lowest cost to them and their community (21). Since pharmacists are an important part of the integrative health system, their role should be emphasised in promoting rational use of drugs (14). In many countries the pharmacist has a changing role as patient counsellor/educator and as an intermediary to affect patient outcomes in ambulatory settings. Thus, pharmacists have an important role in the safe and effective use of pharmaceuticals by providing sufficient and accurate information to patients and monitoring the drug therapy. Good pharmacy practice in community pharmacies is essential for a proper dispensing process thereby promoting a rational use of drugs (22, 23).

Formally, the dispenser is a person who has had a special training in the art of preparing and giving medicines. In many countries (especially developing countries) dispensers without a formal pharmaceutical training exist. An effective dispenser needs besides marketing skills, knowledge about drugs and the ability to communicate and consult with public and other health care professionals (23).

Although the dispensing process seems to be a simple one, it should be noted that proper dispensing takes time. The quality of dispensing increases with the time spent. The dispensing

TABLE 2. The reported daily number of applications to a pharmacy by the prescription status

Daily Number of applications	Prescription status				Total
	With a prescription	%	Without a prescription	%	
0-10	40	51.3	38	48.7	78
11-20	24	49.0	25	51.0	49
21-30	10	47.6	11	52.4	21
31-40	4	66.7	2	33.3	6
> 40	2	33.3	4	66.7	6
Total	80	49.6	80	50.4	160

behaviour is influenced by many factors, i.e. training and knowledge, professional compensation, lack of communication skills, dispenser-prescriber relationships, social status of a dispenser in the healthcare system, public versus private sector, promotional and marketing techniques and availability of supply (14).

In addition to the information provided, the quality of information is also important. The information must be scientifically accurate, unbiased and up-to-date. One FDA study in 2001 showed that although most patients received prescription drug information, the quality of information needed improvement (24).

Community pharmacies in Turkey are private enterprises and are required by law to be managed and owned by pharmacists. Turkish law allows a pharmacist to own and/or run only a single pharmacy. All owners and managers must be registered with the regional Board of Pharmacists. All the regional boards fall under the guidance of the Turkish Pharmacists Association [TEB]. Pharmacists are required to be present in their pharmacies during opening hours, but this is not strictly adhered to. The dispensers are either pharmacists or pharmacy employees. There are numerous untrained employees dispensing without the required supervision.

The aim of the present study was to evaluate the dispensing habits of the community pharmacists in one region of Istanbul from the perspective of RUD.

METHODS

The following study involves a part of the data of an interventional study in which 84 community pharmacists in the Umraniye district of Istanbul were evaluated by a face to face questionnaire and a simulated case scenario in 2002.

Study population:

The questionnaire was conducted with 84 community pharmacists (total number of pharmacies in the district was 104) who had consented to participate in the study. However, 4 of them could not be reached after the third visit and 9 of them dropped after a few questions and 71 pharmacists completed the questionnaire.

Questionnaire: The questionnaire consisted of 30 structured questions which were prepared to determine the sociodemographic characteristics of the pharmacists and pharmacy employees and the dispensing habits of the pharmacists. The

TABLE 3. Statements of pharmacists about the points they check in a prescription

Points checked in a prescription (n=71)	Agree (%)	Unsure/ no idea (%)	Disagree (%)
Patient's name	64.7	8.5	26.8
Patient's age	69.0	8.5	22.5
Diagnosis	81.7	5.6	12.7
Date of the prescription	88.7	2.8	8.5
Dosing of the drugs	100.0	0.0	0.0
Pharmaceutical dosage form of the drug	90.1	1.4	8.5
Instructions about medication	100.0	0.0	0.0
Duration of the medication	97.2	1.4	1.4

structured statements were strongly agree, agree, no idea, disagree and strongly disagree.

Simulated Case Scenario: A 25 year-old patient enters the pharmacy with a constant prescription of a tetracycline capsule (Tetralet®) twice a day. Before leaving the pharmacy, (s)he asks the dispenser, if (s)he could take this antibiotic with an antacid or milk, because (s)he has gastritis.

The simulated patients (undergraduate students of Marmara University School of Pharmacy) visited the pharmacies two days after the questionnaire. After leaving the pharmacy, they filled out a form about the dispensing behaviours of the dispensers (pharmacist or pharmacy employee), who had evaluated their prescription.

Rationality indicators

The rationality indicators evaluated in the study were average dispensing time, stock availability and adequate labelling of the drug. The average dispensing time (starts with entering the pharmacy and ends with leaving the pharmacy) was recorded by the use of stopwatches. The data in the questionnaire and practice results of the simulated scenario were matched for each pharmacy.

Average dispensing score

An average dispensing score was calculated for each dispenser. The maximum dispensing score was 16 for the dispensed drug. The dispensing score was based on the given verbal and written information (Table 1).

Statistical Analysis: The data were subjected to frequency analysis by the Statistical Package for Social Sciences® (SPSS) software version 11.0 for windows. A frequency analysis and Student's t test were performed for the statistical analysis. The level of statistical significance was accepted as $p < 0.05$.

RESULTS

Questionnaire

The questionnaire was conducted with 80 community pharmacists, (total number of pharmacies in the district was 104) who participated in the study. However, 9 of them dropped after a few questions and 71 pharmacists completed the questionnaire. The overall response rate was 76.9% (80/104). The majority of the community pharmacists were female (79.2%) and middle-aged. The average age for all pharmacists was 38.8 ± 10.6 . The average years since graduation was 15.5 ± 9.1 and the experience as a community pharmacist was 11.1 ± 9.0 years.

TABLE 4. Statements of pharmacists about the problems they face on a prescription

The problems faced in a prescription (n=71)	Agree (%)	Unsure/ no idea (%)	Disagree (%)
Dosing error	53.5	4.2	42.3
Inadequate instructions about medication	56.4	5.6	38.0
Pharmaceutical dosage form error	42.3	7.0	50.7
Unavailable drug	73.3	7.0	19.7
Illegible prescriptions	83.1	7.0	9.9
Drug interactions	36.6	9.9	53.5
Contraindication	33.8	9.9	56.3
Missing duration of medication	28.2	14.1	57.7

12.7% had a post-graduate education and 41.8% had another professional experience in a drug company or a hospital pharmacy.

All the pharmacists stated that they used a computer for online connection to the web-sites of social insurance organisations for reimbursement applications of the prescriptions. There was at least one non-pharmacist employee working in 87.5% of the pharmacies. The average number of employees was 2 per pharmacy. Almost half (44.5 %) of the pharmacy employees had a primary school degree and 90.5 % of the pharmacists believed their employees were satisfactory in dispensing drugs on their own.

The pharmacists stated that the proportion of the patients who had a prescription was similar to the patients applying without a prescription. Most of the pharmacists said that they served up to 30 patients with/without prescription per day. The reported number of patients applying at a pharmacy in a day is shown in Table 2.

The statements of pharmacists about the items they checked on a prescription are shown in Table 3. All the pharmacists claimed to have checked the instructions about dosing and medication dosage. 97.2% of pharmacists checked the duration of medication and 90.1% checked the pharmaceutical dosage forms. The diagnosis and date of prescription were checked by 81.7 and 88.7% respectively. The name and age of the patient seemed to be checked less frequently (64.7 and 69.0% respectively).

Table 4 shows the type of problems pharmacists reported that they had to face on a prescription. The three most common problems were illegible prescriptions (83.1%), unavailable drugs (73.3%), and inadequate instructions about the medication (56.4%) (Table 4). The other problems included: being unable to persuade the patient or doctor about an equivalent drug, high cost of the drugs, prescriptions being written by brand-name/lack of the generic drugs in the prescriptions.

Pharmacists reported that in the case of a prescription problem, their approach was to call the doctor (95.8%), ask a colleague (43.7%), use their own knowledge/ judgement (93.0%), check a reference book or drug index etc (21.1%), (Table 5).

All the pharmacists reported that they informed the patients about the diagnosis, the dosing of the drugs and the instructions for administering the drug (Table 6). Other information

TABLE 5. Pharmacists' approaches to prescription problems

Pharmacists' approaches (N=71)	Agree (%)	Unsure/no Idea (%)	Disagree (%)
Calls the prescriber	95.8	1.4	2.8
Asks a colleague	43.7	4.2	52.1
Uses her/his own knowledge/judgement	93.0	1.4	5.6
Checks a reference book, drug index etc	21.1	4.2	16.9

given was the duration of medication (95.8%), equivalent drugs (91.6%), storage conditions (91.6%), food interactions (78.9%), diagnosis (77.4%), compliance (76.0%), possible side effects (74.6%) and drug interactions (66.2%).

Sixty nine percent of pharmacists believed that the patients do clearly understood the information they were given. Half of them confirmed and clarified the understanding of the patients (Table 7).

According to their statements 74.6% of pharmacists were unsatisfied with their profession. Only a small percent (15.5%) was satisfied, while 9.9% had no idea/were unsure about this.

The results of the simulated case scenario

Sixty seven point nine percent of the pharmacists were present in their pharmacies at the time of the study and 90.4% stated that they spent more than 6 hours a day in their pharmacies. 40.5% of the prescriptions were dispensed by the pharmacists.

The availability of the prescribed drug, another rationality indicator, was 81.0% for our study. The prescription given by the simulated patients was dispensed in 93.0% (n=78) of the 84 pharmacies whereas six dispensers (7.0%) refused the prescription because the drug was not available. In other pharmacies, the prescribed drug was replaced by an equivalent after informing the patient (5.0%) or without informing the patient (6.0%). Overall, 92.0% of the patients had access to the prescribed drug or its equivalent. In one pharmacy (1.0%) tetracycline capsules were unavailable and it was replaced by doxycycline capsules.

The declared average dispensing time (287 ± 241 seconds) for a prescription of a single drug was almost twice the time measured (149 ± 72 seconds) by the simulated patients.

Adequate labelling of the drug is another patient care indicator for RUD. The number of drug packages adequately labeled was 43.0%, whereas 10.0% were unlabeled. Moreover, 47.0% of the labeled packages were mislabeled or inadequately labeled.

In spite of the pharmacists' statements about informing the patients (Table 6), it seems that their statements were only partially consistent for the instructions about medication. The information about the duration of medication, drug interactions, possible side effects, contraindications and storage instructions was not given at all. The other information given was the name of the drug (20.0%), diagnosis/ purpose of the drug (8.9%), pharmaceutical dosage form of the prescribed drug (3.8%) and dosing of the drug (6.3%). 1.3% of the simulated patients were misinformed about the dosing schedule (Table 8).

TABLE 6. Statements of pharmacists about the information they provide to the patients about their prescriptions/ medications

Types of information given by the pharmacists to their patients about their prescriptions/ medications	N	Agree (%)	Unsure/no idea (%)	Disagree (%)
Diagnosis	69	77.4	4.3	18.3
Dosing of drugs	70	100.0	0.0	0.0
Instructions about medication	71	100.0	0.0	0.0
Taking drug on empty/full stomach	71	100.0	0.0	0.0
Duration of medication	71	95.8	0.0	4.2
Storage conditions	71	91.6	1.4	7.0
Possible side effects	71	74.6	8.5	16.9
Drug interactions	71	66.2	14.1	19.7
Food interactions	71	78.9	4.2	16.9
Importance of compliance	71	76.0	11.3	12.7
Drug equivalence	71	91.6	1.4	7.0

Some of the pharmacists claimed that they warn their patients about potential drug and food interactions (66.2 and 78.9% respectively) (Table 6), but only a few patients (6.5%) in the simulated case scenario were warned about both interactions by the dispensers. When asked by the simulated patients, half of the dispensers (50.6%) approved that tetracycline capsule could be taken together with an antacid or milk (Table 9).

The average dispensing score for the pharmacists was 3.7 ± 1.8 (n=32) while it was 2.9 ± 1.0 (n=45) for the non-pharmacist dispensers ($p < 0.01$). The average dispensing score of the pharmacists was not influenced by the factors such as sex, age or workload. On the other hand the dispensing score was found to be significantly higher for the pharmacists whose experience as a community pharmacist was 5 years or less (Table 10).

DISCUSSION

Since 1990, US colleges of pharmacy and professional associations (American Pharmaceutical Association, American Society of Health-System Pharmacists) have adopted pharmaceutical care as the standard for pharmacy practice (25, 26). Nonetheless, pharmacists in general, and community pharmacists in particular, have been slow to incorporate pharmaceutical care into their daily practices (27). This expanded professional role, known as pharmaceutical care, was defined as "the responsible provision of drug therapy for the purpose of achieving definite outcomes that improve a patient's quality of life" (28, 29).

Pharmacists are usually the last healthcare providers with whom a patient comes in contact before using a medication. (28-30). Additionally, pharmacists are accessible to patients, often seeing them on several occasions between routine physician visits (31). Therefore, during the consultation with the patient, the pharmacist should provide sufficient information (e.g. how to take it, how long to take it, at what times to take it, proper storage, frequently encountered side effects) to ensure the patient will safely and appropriately use the medication (12).

TABLE 7. Statements of pharmacists about their attitudes in providing information

Statements of pharmacists	N	Agree (%)	Unsure/no idea (%)	Disagree (%)
Patients understand the information provided	71	69.0	16.9	14.1
The pharmacists use all the opportunities to clarify patient's understanding	71	94.4	4.2	1.4
They confirm and clarify the understanding of the patient	71	52.1	0.0	47.9

Rational use of drugs requires that patients receive medications appropriate to their clinical needs, in doses that meet their own requirements, for an adequate period of time and at the lowest cost to them and their community (21). Therefore, the aim of the present study was to evaluate the dispensing habits of the community pharmacists in one district of Istanbul from the perspective of rational drug use. The rationality indicators used in our study were patient care indicators (average dispensing time, adequate labelling of the drug, percentage of drugs actually dispensed) and facility indicators (qualifications of the dispensers i.e. average years since education, average years as a community pharmacist) (32).

According to the data obtained from the questionnaire, the majority claimed that they provide adequate verbal and written information to the patients. However the results of the simulated cases showed that the patients were poorly informed. Thus, the present study has demonstrated that the statements of the community pharmacists about their dispensing do not match with their dispensing attitudes.

In our study almost all the pharmacists claimed that they carefully examine the prescriptions and provide information about the medication to the patients. On the contrary, they had informed the simulated patients poorly. In another study conducted in the same district with 1618 patients, who applied to primary healthcare centres, patients were asked about the name(s) and effect(s) of the drug(s) on their prescriptions. In that study only 11% of the respondents could recall the appropriate names of their drug(s) and 21% knew the effects of their prescribed drugs though 74% of these patients were asking for a prescription refill. Moreover, in the mentioned study 40.5% of the practitioners had informed their patients about the drug effects and 7% of these had clarified patients' understanding (33). Taken together, it may be suggested that practitioners and pharmacists did not provide adequate information to the patients (in that region) about their prescribed drugs.

Another important point is that this is the first study calculating the average dispensing time in Turkey. The declared average dispensing time for a prescription of a single drug was approximately 5 minutes, which was almost twice the time measured by the simulated patients. The average dispensing time of 149 ± 72 seconds, found in the present study, was higher than those previously reported in other countries. Nevertheless, it was inadequate for a proper pharmaceutical orientation, since WHO recommends that pharmacists spend at least 3 minutes in orienting each patient (34). Such inadequacy was

TABLE 8. Information given by pharmacists to the simulated patients about prescriptions/ medications

Type of information given by the pharmacist	N	Correctly informed (%)	Misinformed (%)	Uninformed (%)
Drug's name	80	20.0	0.0	80.0
Pharmaceutical form of the drug	80	3.8	0.0	96.2
Dosing of the drug	80	6.3	1.3	92.4
Purpose of the drug	79	8.9	0.0	91.1
The instructions about medication	78	87.2	0.0	12.8
The duration of medication	78	0.0	0.0	100.0
Drug interactions	78	0.0	0.0	100.0
Food interactions	78	2.6	0.0	97.4
Possible side effects	78	0.0	0.0	100.0
Contraindications	78	0.0	0.0	100.0
Storage conditions	78	0.0	0.0	100.0
Compliance	78	7.7	0.0	92.3

also reported for Brazil (53.9 seconds), Sudan (21.8 seconds), Nepal (86.1 seconds), Tanzania (77.8 seconds), Nigeria (12.5 seconds), and Bangladesh (23 seconds) (35-38). Since the patients were poorly informed, we may speculate that average dispensing time should be longer so that there will be enough time for counselling.

Also, as shown in Table 1, we suggest a new method for calculating the dispensing score. The average dispensing score may be a new and useful method for evaluating the quality of dispensing. In the present study when we have calculated the average dispensing score for each dispenser, we have observed that the dispensing score of the pharmacists were significantly higher than for the non-pharmacist dispensers. In the light of this finding we may suggest that only trained health staff should provide dispensing of medicines and education of pharmacists and other health care professionals is essential for quality improvement in dispensing. Treatment guidelines and training courses should emphasise the importance of correct labelling, and giving correct and adequate information to patients about their prescribed drugs (4, 39, 40).

The average dispensing score of the pharmacists was not influenced by factors such as sex, age or workload. On the other hand the dispensing score was found to be significantly higher for the pharmacists whose experience as a community pharmacist was 5 years or less indicating that dispensing score is closely associated with the experience. There are only few reports that have evaluated the criteria and factors influencing the dispensing (41-42). According to the study of Caamano et al. (2005) the dispensing practice of the pharmacists is associated with their opinions on the perception of the pharmacist's responsibility toward the rational use of drugs and their workload (43). Thus, they have suggested that pharmacies with excessive workload function in a more commercial way, reducing the time a pharmacist spends with each customer and exerting less control over prescriptions.

The main limitation of our study is that it is not an intervention study, i.e. the dispensing behaviour should have been re-eval-

TABLE 9. The dispensers performance about the warnings to antacid and dairy product interactions with tetracycline in the case scenario

Comments of dispensers about the interactions between tetracycline and antacids/dairy products in the case scenario	n	%
No comments	4	5.2
Can be taken with either antacids or dairy products	39	50.6
Can be taken with antacids but can not be taken with dairy products	16	20.8
Can not be taken with antacids but can be taken with dairy products	4	5.2
Can be taken with neither antacids nor dairy products	5	6.5
Can not be taken with antacids	2	2.6
Can be taken with antacids	6	7.8
Can be taken with dairy products	1	1.3
Total	77	100.0

uated after a short training course. However, it is the first study for our country to evaluate the dispensing behaviour of the community pharmacists. Moreover the calculation method we have suggested for the evaluation of the dispensing score can be a useful one.

CONCLUSION

- √ Average dispensing time should be longer so that there will be enough time for counselling.
- √ The dispensing score may be a useful method for the assessment of the quality of dispensing and intervention studies aimed at improving the quality of dispensing may be carried out using this score.
- √ The dispensing scores of pharmacists are significantly higher than those of the non pharmacist dispensers. Therefore,

TABLE 10. Factors influencing the dispensing score

Influencing factors	Dispensing score \pm SD	Statistics (Student's t test)
Sex	Male	3.71 \pm 1.80
	Female	3.71 \pm 1.79
Age	\leq 35	3.28 \pm 1.21
	$>$ 35	3.26 \pm 1.72
Experience as a community pharmacist	\leq 5	3.95 \pm 1.94
	$>$ 5	2.90 \pm 0.99
Workload (number of prescriptions/day)	\leq 20	3.24 \pm 1.42
	$>$ 20	3.25 \pm 1.51

only trained health staff should be allowed to provide dispensing services. Although TEB has been active in organizing training programs for the non pharmacist employees in recent years, no formal training is required by law.

- √ The average dispensing score of the pharmacists was not influenced by factors such as sex, age or workload but is closely associated with experience.
- √ It is essential that undergraduate and postgraduate education of pharmacists and other health care professionals aim to improve the quality of dispensing.

Acknowledgements:

The authors would like to thank Hedef-Alliance Holding A.Ş. who supported this study as well as the pharmacists who participated for their time and cooperation. The authors are also grateful to R. W. Guillery for English editing.

Conflict of Interest:

None declared.

Türkiye’de serbest eczacıların eczacılık uygulamaları

ÖZET: Serbest eczanelerdeki (SE) iyi eczacılık uygulamaları akılcı ilaç kullanımı (AİK) açısından oldukça önemli bir basamağı oluşturmaktadır. Bu çalışmada serbest eczacılık uygulamalarının AİK ilkeleri açısından incelenmesi amaçlandı. Bir müdahale araştırmasının bir bölümünü oluşturan bu çalışmada, 2002 yılında İstanbul, Ümraniye’deki 84 SE’nin eczacılık uygulamaları, yüz yüze görüşme yoluyla yapılan anket ve simüle senaryo uygulaması ile değerlendirildi. Bir reçetenin ortalama karşılanma süresi, reçete karşılama davranışı, ilaç kutusuna gerekli işaretlemenin yapılması gibi AİK parametreleri değerlendirildi. Bulgularımıza göre simüle çalışmalar sırasında eczacıların %32,0’i eczanelerinde bulunmuyordu. Reçetelerin sadece %40,5’i eczacılar tarafından karşılandı. Eczacı kalfalarının % 44,5’inin eğitim düzeyi ilköğretim mezunu düzeyinde idi. Eczacılar, hastalarının yaklaşık yarısının herhangi bir reçetesi olmadan eczaneye başvuran kişilerden oluştuğunu beyan etti. Reçetenin karşılanma süresini ankette eczacılar ortalama 287 saniye olarak ifade etmesine karşın, bu sürenin simüle reçete senaryolarında 149 saniye olduğu saptandı. Tüm eczacılar ilaçların nasıl kullanılacağı konusunda hastalarını bilgilendirdiklerini ifade ederken, simüle reçete senaryolarında reçetelerin sadece %43,0’ının yeterli işaretlemelerinin ilaç kutusuna yapıldığı ve sadece %6,5’ine eczanede ilacı kendilerine sunan taraftan ilaçları ile ilgili etkileşimler konusunda bilgi verildiği saptandı. Sonuç olarak, iyi eczacılık uygulamaları açısından İstanbul’da araştırmanın yapıldığı bölgedeki SE’de yapılan eczacılık uygulamalarının yetersiz olduğu görülmektedir. Reçeteli ya da reçetesiz çoğu hastanın ilaçları konusunda sıklıkla başvurduğu yerin SE’ler olduğu dikkate alındığında bu araştırmanın bulguları, eczacıların ve diğer eczane çalışanlarının sürekli eğitim kapsamında AİK ilkeleri doğrultusunda eğitim almalarının gerekli olduğunu ortaya koymaktadır.

ANAHTAR KELİMELER: Akılcı ilaç kullanımı, Eczacılık uygulamaları, Serbest eczacı, Reçete, Reçete karşılanma süresi.

REFERENCES

1. Caamaño F, Ruano A, Figueiras A, Gestal-Otero JJ. Data collection methods for analyzing the quality of the dispensing in pharmacies. *Pharm World Sci*, 24:217-23, 2002.
2. Van Mil F. Pharmacy and health care. *Pharm World Sci*, 24:213, 2002.
3. Stone L. Good Pharmacy Practice in Developing Countries: Recommendations for step-wise implementation. FIP Congress Report, Hague, 1998.
4. Fédération Internationale pharmaceutique (FIP). Guidelines for the labels of prescribed medicines. Approved by FIP Council in Singapore in September 2001.
5. Fédération Internationale pharmaceutique (FIP). Medication errors associated with prescribed medication. Approved by FIP Council in Barcelona in September 1999.
6. Chamba G, Bauguil G, Gallezot J. The role of French community pharmacist in drug dispensing. *Pharm World Sci*, 21:142-143, 1999.
7. Westerlund T, Almarsdóttir AB, Melander A. Factors influencing the detection rate of drug related problems in community pharmacy. *Pharm World Sci*, 21:245-250, 1999.
8. Westerlund T, Marklund BRG, Handl WHA, Thunberg ME, Allebeck P. Nonprescription drug-related problems and pharmacy interventions. *Ann Pharmacother*, 35:1343-1349, 2001.
9. Westein MPD, Herings RMC, Leufkens HGM. Determinants of pharmacists' interventions linked to prescription processing. *Pharm World Sci*, 23: 98-101, 2001.
10. Pickard AS, Johnson JA, Farris KB. The impact of pharmacist interventions on health-related quality of life. *Ann Pharmacother*, 33:1167-1172, 1999.
11. Rupp MT, DeYoung M, Schondelmeyer SW. Prescribing problems and pharmacist interventions in community practice. *Med Care*, 30:926-940, 1992.
12. Popovich NG. Ambulatory patient care. In: Gennaro AR, editor. *Remington's Pharmaceutical Sciences*. 17th edition. Mack Publishing Company. 1985, pp. 1681-1701.
13. Tindall WN, Millionig MK. The dream of pharmaceutical care. In *Pharmaceutical Care: Insights from Community Pharmacists*. CRC Press, pp. 3-12, 2003.
14. Laing R. Role of dispensers in Promoting Rational Drug Use. http://dcc2.bumc.bu.edu/prdu/Session_Guides/role_of_dispensers_in_rational_d.htm Reached: 22nd Dec, 2009
15. Ansel HC. The prescription. In: Gennaro AR, editor. *Remington's Pharmaceutical Sciences*. 17th edition. Mack Publishing Company. 1985, pp. 1778-1795.
16. Le Grand A, Hogerzeil HV, Haaijer-Ruskamp FM. Intervention research in rational use of drugs: a review. *Health Policy Plan*, 14:89-102, 1999.
17. Aström K, Carlsson J, Bates I, Webb DG, Duggan C, Sanghani P, McRobbie D. Desire for information about drugs. *Pharm World Sci*, 22:159-64, 2000.
18. Isacson D, Bingefors K. Attitudes towards drugs - a survey in the general population. *Pharm World Sci*, 24: 104-110, 2002.
19. Hussar DA. Patient compliance. In: Gennaro AR, editor. *Remington: The science and practice of pharmacy*. 19th ed. Mack Publishing Company; 1995, pp. 1796-1807.
20. Laing RO, Hogerzeil HV, Ross-Degnan D. Ten recommendations to improve use of medicines in developing countries. *Health Policy and Planning*, 16:13-20, 2001.
21. World Health Organization. Rational Use of Drugs. Report of a Conference of Experts, Nairobi November 1985. Geneva: WHO 1997.
22. Fédération Internationale pharmaceutique (FIP). Standards for Quality of Pharmacy Services. Approved by the FIP Congress in Hague in September 1997.
23. Fédération Internationale pharmaceutique (FIP). Statement of principle. Self-care including self-medication-The professional role of the pharmacist. Approved by FIP Council in Jerusalem in September 1996
24. Svarstad BL, Mount JK. Evaluation of written prescription information provide in community pharmacies: A Study in Eight States. *J Am Pharm Assoc*, 43: 383-393, 2003.
25. Joint Commission of Pharmacy Practitioners. Provisional draft mission statement for pharmacy practice. *Am J Hosp Pharm*, 47:533-543, 1991.
26. Young MD, Stilling WJ, Munger MA. Pharmacy practice Acts: A decade of progress. *Ann Pharmacother*, 33:920-926, 1999.
27. Hepler CD. Can a community pharmacist add value to prescriptions? *Am Pharm*, 33:46-47, 1993.
28. Hepler CD, Strand LM. Opportunities and responsibilities in pharmaceutical care. *Am J Hosp Pharm*, 47:533-543, 1990.
29. Rawlin MD. Extending the role of the community pharmacist. *BMJ*, 302:427-428, 1991.
30. Cordina M, McElnay JC, Hughes CM. The importance that community pharmacists in Malta place on the introduction of pharmaceutical care. *Pharm World Sci*, 21:69-73, 1999.
31. Benjamin H, Smith F, Motawi MA. Drugs dispensed with and without a prescription from community pharmacies in a conurbation in Egypt. *East Medit Health J*, 1:506-514, 1996.
32. World Health Organization. How to investigate drug use in health facilities. Selected drug use indicators. WHO/DAP/93.1. Geneva: WHO 1993.
33. Akici A, Kalaca S, Ugurlu MU, Toklu HZ, Iskender E, Oktay S. Knowledge of patients about their prescribed drugs in primary healthcare facilities. *Pharmacoepidemiol Drug Saf*, 13:871-876, 2004.
34. Dos Santos V, Ottati S, Nitrini O. *Rev Saude Publica*, 38, 2004. http://www.scielo.br/pdf/rsp/v38n6/en_10.pdf
35. Hogerzeil HV, Ross-Degnan D, Lang RO, Ofori-Adjei D, Santoso B, Chowdhury AK et al. Field tests for rational drug use in twelve developing countries. *Lancet*, 342:1408-1410, 1993.
36. Naves JO, Silver LD. Evaluation of pharmaceutical assistance in public primary care in Brasilia, Brazil. *Rev Saude Publica*, 39:223-230, 2005.
37. Awad AI, Himad HA. Drug-use practices in teaching hospitals of Khartoum State, Sudan. *Eur J Clin Pharmacol*, 62: 1087-1093, 2006.
38. De Castro MS, Correr CJ. Pharmaceutical care in community pharmacies: practice and research in Brazil. *Ann Pharmacother*, 41:1486-1493, 2007.
39. Cancrinus-Matthijsse AM, Lindenberg SM, Bakker A,

Groenewegen PP. The quality of the professional practice of the community pharmacists: what can still be improved in Europe? *Pharm World Sci*, 18: 217-228, 1996.

- 40.** Hawksworth GM, Corlett AJ, Wright DJ, Chrystyn H. Clinical pharmacy interventions by community pharmacists during the dispensing process. *Br J Clin Pharmacol*, 47:695-700, 1999.
- 41.** Willison DJ, Muzzin LJ. Workload, data gathering and quality of community pharmacists' advice. *Med Care*, 33:29-40, 1995.

42. Ward PR, Bissell P, Noyce PR. Criteria for assessing the appropriateness of patient counselling in community pharmacies. *Ann Pharmacother*, 34:170-175, 2000.

- 43.** Caamaño F, Tomé-Otero M, Takkouche B, Gestal-Otero JJ. Influence of pharmacists' opinions on their dispensing medicines without requirement of a doctor's prescription. *Gac Sanit*, 19:9-14, 2005.