

# Pharmacists' opinions and self-reporting performance regarding the professional tasks and responsibilities in Isfahan, Iran

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## ABSTRACT

**Background:** The pharmacists' roles and responsibilities toward the pharmaceutical care practice have developed considerably during the recent years. **Objectives:** The aim of this program is to explore the opinions and performances of community pharmacists with regard to their professional tasks and responsibilities in Isfahan city. **Materials and Methods:** A descriptive cross-sectional questionnaire survey of community pharmacists was conducted on a sample of 150 pharmacists using the Delphi process. Data were collected on the opinions and performances of the pharmacists' task, professional responsibility and expertise, organizational and managing skills, and sociodemographic information. **Results:** The response rate was 93.3%. High expressions of agreement were found with most of the task and professional responsibilities and managerial skills and the mean rates of the self-reporting performance of most key tasks were 'always'. The important differences were found in two opinions about the pharmacists' responsibilities, (a) declining to dispense the prescribed drug that was not appropriate for the patient's illness and (b) keeping the patient's medical records for future needs. The pharmacists' opinions on various forms of professional expertise were diverse, especially on recognizing that the required medications were not prescribed for the patient, being informed on the pharmacotherapy subsequence and predicting the therapeutic outcomes, interpreting the laboratory tests results, and assisting persons in need of emergency first aid. **Conclusion:** Pharmacists largely agreed with most of the professional tasks and responsibilities, however, new educational programs should be developed to promote the pharmacists' knowledge and skills concerning pharmacotherapy. Also an extended role for pharmacists needs to be addressed in the pharmacy regulations and laws.

**Key words:** Opinion, pharmacists, pharmaceutical care

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## INTRODUCTION

The pharmacy practice has expanded significantly during the recent years.<sup>[1]</sup> In some countries, the pharmacists' responsibilities have developed from dispensing functions to providing various new professional services.<sup>[2,3]</sup> The World Health Organization (WHO) has described the role of a pharmacist as a compassionate caregiver, decision maker, active communicator, lifelong learner, good manager, a teacher, and

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a researcher.<sup>[4]</sup> The WHO also emphasizes that the attitudes, behaviors, ethical values, knowledge, and responsibilities of the pharmacist must be toward the achievement of the desired therapeutic outcome and improvement in the quality of life of the patients.<sup>[5]</sup> Pharmaceutical care such as medication counseling, providing advice, and chronic disease management have become an important part of community pharmacy practice.<sup>[6]</sup> Pharmacists have a pivotal role in adjusting pharmacotherapy, promoting optimal use of drugs, maximizing the therapeutic benefits, and minimizing the risk of adverse effects.<sup>[7]</sup>

With regard to these changes in roles and activities, the pharmacists' perceptions concerning their responsibilities could affect the quality of their work. A precise and scientific description of the pharmacists' views and the present task pattern in each country could provide information, in detail, about the particular job duties, responsibilities, working conditions, and requirements of the job.<sup>[8]</sup>

As there is little information on the opinions of pharmacists or about their current practices regarding the pharmacy profession in Iran, the present study has been undertaken to obtain data from the pharmacists in various practice settings in the city of Isfahan. The purpose of this study was to identify the duties, tasks, and the work expected of the pharmacists, to analyze the requirements of their occupation and training needs, and to use the resulting information to develop new educational programs for performing the job successfully.

## MATERIALS AND METHODS

A descriptive cross-sectional questionnaire survey of community pharmacists was conducted in Isfahan. The city of Isfahan is situated 400 km from Tehran in the center of Iran. A sample of 150 pharmacists was randomly selected from a total of 256 community pharmacists occupied in the pharmacies of Isfahan, using the clustering method. For designing the questionnaire, the Delphi method was used.<sup>[9]</sup> In this method, the opinions of a group of identified experts in pharmacy education and practice were attained in a systematic interactive manner through open-ended questions via an early questionnaire. After collecting the early questionnaires and reviewing the published literature, the final questionnaire was developed and validated by 12 expert faculty members of the Isfahan Pharmacy and Pharmaceutical Sciences School. The reliability of the questionnaire was tested by Cronbach's alpha, which was a measure of inter-item correlations and the scale had an appropriate level of internal consistency (Cronbach's alpha = 0.76).<sup>[10]</sup> The final self-administered questionnaire consisted of 23 closed-ended questions, and for each statement the responders had to indicate their opinion via two options, 'agree' and 'disagree'. The questionnaire addressed the following issues including opinions on, (1) pharmacists' task and professional responsibility, (2) pharmacists' professional expertise, (3) pharmacists' organizational and managerial skills, and (4) sociodemographic information.

The questions in the section of opinions on pharmacists' task and professional responsibility involved major topics including: Scientific evaluation of medical prescriptions; ensuring the rationality of the prescriptions before dispensing; providing information, instructions, and warnings to patients; and having a knowledge on non-prescriptional medicines or over-the-counter (OTC) drugs and their administering. The sociodemographic information included sex, age, marriage status, year of qualification, working in a day or night pharmacy, and working in a private or national pharmacy.

For evaluation of performance (self-reporting), the answers were given scores of 1-5 (5 = always, 4 = often, 3 = no idea, 2 = rarely, 1 = never).

Data collection was done by means of in-person interviews. Before the pharmacists completed the questionnaire, the purpose of the study was explained to them verbally and in writing and they were encouraged to participate. All pharmacists participated in the study by their own will and recording the names was done voluntarily for ensuring confidentiality.

Data were presented as frequency percentage or means  $\pm$  SD. Statistical analysis was performed using descriptive statistics and Chi-square and correlation tests were done using the SPSS software.

## RESULTS

Of the 150 questionnaires that were given out to pharmacists, 140 (93.3%) were properly filled and analyzed. The results of demographic information are summarized in Table 1. Most pharmacists were working in day and private pharmacies. No considerable correlation was found between pharmacists' opinions and demographic variables including age, sex, time since graduation, daily or night work, and working in private or national pharmacy. There was also no association between the self-reporting performance and the above variables ( $P > 0.05$ ).

Tables 2-4 summarize the pharmacists' opinions on 23 statements concerning the pharmacy profession. In Table 2,

**Table 1: Demographic characteristics of respondents**

Variable	Category	n (%)
Gender	Male	88 (62.8)
	Female	52 (37.2)
Mean age (range)		36 years (27-71)
Time since graduation		9.6 years
Marriage status	Married	131 (93.6)
	Single	9 (6.4)
Practice setting	Day pharmacy	136 (97.1)
	Night pharmacy	60 (42.8)
	Private pharmacy	110 (78.6)
	National pharmacy	30 (21.4)

n=140

**Table 2: Pharmacists' opinions on the task and professional responsibility of a pharmacist in the community pharmacy and the mean rate of self-reporting performance of the key tasks**

Statement	% Agree	% Disagree	Performance
Pharmacists should ensure that the prescription is safe and scientific	98	2	Always
Pharmacists are responsible for assessing the appropriateness of the medicines in relation to the full medication history (drug interaction, contraindications, special patient's illness and allergy, ...)	97.3	2.7	Always
Pharmacists should dispense the drugs properly and provide recommendations to patients	99	1	Always
Pharmacists should refuse to dispense a prescribed drug that is not appropriate for the patient's illness	51	49	Often
Pharmacists should provide recommendations of drug usage, specifically for pediatrics, geriatrics, pregnant, and lactating women	100	0	Always
Pharmacists should assess the patient and therapy for repeat prescribing and ensure the appropriateness	98	2	Always
Pharmacists should confirm that written prescriptions comply with all legal requirements	92	8	Always
Pharmacists should prescribe OTC drugs and provide recommendations	95	5	Always

OTC: Over-the-counter

there were high expressions of agreement with most of the task and professional responsibilities of a pharmacist in the community pharmacy and the mean rates of the self-reporting performances of most key tasks were 'always'. The important difference in opinions was found for one professional responsibility: Forty-nine percent of the pharmacists disagreed with the opinion that pharmacists should refuse to dispense the prescription drug that was not appropriate for the patient's illness. The pharmacists' opinions on the various forms of professional expertise of pharmacists were diverse [Table 3].

In Table 4, the pharmacists agreed with all the statements addressing the organizational and management skills, except

**Table 3: Pharmacists' opinions on the professional expertise of a pharmacist in the community pharmacy and the mean rate of self-reporting performance of the key tasks**

Statement	% Agree	% Disagree	Performance
Pharmacists should collect data and proper solutions in case of problems concerning pharmacotherapy	71	29	Rarely
Pharmacists should recognize the required medications that are not prescribed	51	49	Rarely
Pharmacists should assess the appropriateness of the prescription in relation to physician's speciality	87	13	Always
Pharmacists could give medicine without a new prescription with regard to a previous patient's illness for a limited period	66.7	33.3	Often
Pharmacists should be informed of the pharmacotherapy subsequence and be able to predict the therapeutic outcomes	39.3	60.7	Rarely
Pharmacists should know the ideal approach for treatment and pharmacotherapy in relation to the patient's condition	75	25	Always
Pharmacists should communicate with physicians and other health professionals and have the responsibility of providing drug information to them	93	7	Often
Pharmacists should respond to foreign patients in English language	83	17	Rarely
Pharmacists should interpret the laboratory tests results	19	81	Rarely
Pharmacists must assist persons in need of emergency first aid	23	77	Rarely

for the opinion that a pharmacist should keep the patient's medical records for future needs. Sixty-six percent of the pharmacists disagreed with this statement, and the mean rate of self-reporting performance of this skill was 'rarely'.

## DISCUSSION

The findings of this study revealed the strong positive views of pharmacists (92-100%) toward most of the professional responsibilities, which were matched by a strong performance by them. The majority of pharmacists were aware of their

**Table 4: Pharmacists' opinions on the organizational and managerial skills of pharmacists in the community pharmacy and the mean rate of self-reporting performance of the key skills**

Statement	% Agree	% Disagree	Performance
Pharmacists should keep patient's medical records for future needs	34	66	Rarely
Pharmacists should supervise the dispensary assistants' or technicians' functions	99	1	Always
Pharmacists should make inspections of drug storage areas, drug appearance, and physical quality, drug expiration time, ...	99.3	0.7	Often
Pharmacists should use a computer system for medical insurance records	84	16	Often
Pharmacists should be able to manage the financial issues related to pharmacy practice	80	20	Often

professional duties, especially in medication management. Muijers and colleagues have reported a great agreement between pharmacists and general practitioners on expanding the pharmacotherapeutic signaling role of a pharmacist.<sup>[7]</sup> The drug review, as precise and scientific monitoring, and evaluation of the medication treatment by pharmacists, has a pivotal role in promoting the optimal use of medicines, reducing the risk of adverse events, and medication errors.<sup>[11,12]</sup>

Although most of the pharmacists (95%) agreed with the professional responsibility of the pharmacist with regard to OTC drugs and always reported the performance of their duties, there is in fact, a report of poor performance with regard to OTC drugs in other studies, and the knowledge and attitude of pharmacists on OTC drugs is not satisfactory.<sup>[13,14]</sup>

A lesser degree of agreement (51%) was found in the opinion regarding the responsibility of a pharmacist to decline dispensing the prescribed drug that was not appropriate for a patient's illness. They felt that it differed from their professional duties. In some countries, pharmacists have a prescribing right,<sup>[15]</sup> but according to the pharmacy laws in our country, pharmacists are not able to legally prescribe medicines, except for OTC drugs. Nevertheless pharmacists are allowed to replace an appropriate drug for the patient in the case of drug allergy or inappropriate prescribing, only after counseling with the prescribing physician.

Our finding showed that pharmacists had different opinions on the various forms of professional expertise. Although three-fourths of the pharmacies were positive about the opinion that pharmacists should know the ideal approach for treatment and pharmacotherapy in relation to the patient's condition, 60.7% disagreed with the responsibility of having knowledge on the pharmacotherapy subsequence and predicting the therapeutic outcomes, and 49% disagreed that

the pharmacists should recognize the required medications that were not prescribed. About one-third of the pharmacies disagreed with the responsibility of collecting data and proper solutions in case of problems concerning pharmacotherapy. Salehifar and his colleague also reported on inadequate pharmacist knowledge, attitude, and performance regarding adverse drug reactions and its reporting.<sup>[16]</sup>

Different opinions have been given on the therapeutic substitution of pharmacists and the extent of their knowledge on all diagnosis relevant to the prescribed drugs.<sup>[7]</sup> However, in a therapeutic plan, both the physician and pharmacist have a responsibility toward patient outcome.<sup>[17]</sup> All these forms of professional expertise confirmed the role of a pharmacist in pharmacotherapeutics, and it needs a lot of knowledge to undertake this important responsibility. These diverse opinions in this study may be due to a lack of a clear definition of responsibilities of the pharmacist in pharmacotherapeutic patient care and also inadequate training of the pharmacists in disease diagnosis and management. Hoti *et al.*, have also reported the support of most Australian pharmacists for an expanded pharmacist-prescribing role, although they recognized the requirement for further training, to perform these roles.<sup>[18]</sup> Communication with physicians and other health professionals and providing drug information to them is one of the pharmacists' responsibilities and most of the pharmacists confirmed this relationship, as in other studies.<sup>[19,20]</sup> It is noteworthy that various factors such as role specification, trustworthiness, and relationship initiation affect the communication between pharmacist and physician.<sup>[21]</sup>

About 66% of the pharmacists agreed that they could give medicine without a new prescription with regard to a previous patient's illness for a limited period. Now the pharmacy laws do not allow pharmacists to dispense medication for reasons other than emergency purposes. However, every working day, many people with chronic medical diseases walk into pharmacies for advice and there is a significant level of trust with the local pharmacist. Recently, a proposal was brought to the Food and Drug Administration (FDA) to create and develop a third drug category that would allow the pharmacists to dispense medications to treat prevalent conditions, such as, asthma, migraine headaches, high blood pressure, and high cholesterol, although there are some opposing views to this proposal.<sup>[22]</sup>

Another finding was a large number of pharmacists' disagreement (81%) with the responsibility for interpreting the laboratory test results. Pharmacists should be familiar with interpreting the laboratory test results, specifically for particular patient situations and evaluating the appropriateness of individual prescriptions.<sup>[23]</sup> However, there are gaps in the pharmacists' knowledge and skills, to effectively perform this practice. Continuing education programs are needed to prepare pharmacists for interpreting and taking action on the results of laboratory tests.

More than three-fourths of the pharmacies disagreed with the responsibility of assisting persons in need of emergency first aid. Pharmacies as the most accessible health professionals, can contribute in the areas of first responder, first aid, and administration of medicines in a life-saving situation. The pharmacists' expertise in this area includes developing guidelines for the treatment of injured people, selecting and delivering medicines and related supplies, basic life support, and first-aid ability.<sup>[24]</sup> However, this expertise requires a training course and different supplies and skills and unfortunately it is not adequately considered as an expected role of a pharmacist.

High expressions of agreement were found with most of organizational and managerial skills of a pharmacist, except for keeping patient's medical records for future needs. In the report of Moczygamba *et al.*, pharmacists also disagreed or were neutral about having adequate documentation systems for medication therapy management services.<sup>[25]</sup> Additional training is needed for pharmacists to know more about making a file for patients.

Some of the professional tasks of this survey are not yet a part of a pharmacist's standard set of tasks in our country. An extended role for pharmacists needs to be addressed in the pharmacy laws and a more precise definition of a pharmacist's responsibilities must be described legally.

It seems that the current training was inadequate for some pharmacists' responsibilities including pharmacotherapeutic patient care, especially disease diagnosis and management, interpretation of laboratory tests data, first-aid ability, and using documentation systems. There is a need for appropriate baseline and continuing professional education for optimization of a pharmacists' role.

There were some limitations in this study including: (1) The pharmacists were not interested in participating in the study and the purpose of the study had to be explained to them and encouragement given, for them to participate. (2) The pharmacists did not have enough free time to complete the questionnaire precisely. (3) We evaluated the self-reporting performances of the pharmacists and it was not an actual performance assessment, therefore, the findings did not elicit the tasks and duties being currently performed in our city. An additional study for the assessment of the actual pharmacist's performance is suggested for better evaluation of a pharmacist's situation in the Iranian healthcare system.

In conclusion, the findings of this survey revealed that a majority of pharmacists were positive with most of the professional tasks and responsibilities; however, more educational programs should be developed for improving the pharmacists' knowledge and skills concerning pharmacotherapy, to ensure optimal patient outcomes. Also an extended role for pharmacists should be further emphasized in the pharmacy regulations.

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