

## Original Research Article

# Exploring community pharmacists perception towards responsible provision of patient care services: A quantitative assessment

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### Abstract

**Purpose:** To investigate the perception of community pharmacists with regard to pharmaceutical care services in Khyber Pakhtunkhwa (KPK), Pakistan.

**Methods:** This was a cross-sectional survey carried out among the community pharmacists in seven divisions of KPK, namely, Bannu, Dera Ismail Khan, Hazara, Kohat, Malakand, Mardan, and Peshawar. The survey was conducted between July and September 2014. A total of 22 community pharmacists were identified and approached.

**Results:** Eighteen community pharmacists returned the filled questionnaire showing a response rate of 81.8 %. All participants (n = 18, 100 %) were male. The majority of the participants 55.6 % (n = 10) made it clear that they had never interacted with doctors, while only 33.3 % (n = 6) reported weekly interaction. The major reasons for interaction were to discuss drug alternatives (38.9 %, n = 7) and the availability of prescribed drugs (33.3 %, n = 6). Meanwhile, about 83.3 % (n = 15) of community pharmacists were involved in educating patients, while only 38.9 % (n = 7) spend enough time on each patient. Further, a large proportion of respondents had never documented patients' medical, allergy and family histories (83.3 %, n = 15). Only 44.4 % (n = 8) of community pharmacists sometimes checked and signed the prescription.

**Conclusion:** Community pharmacists are few in number in the studied area. They are involved in patient counseling but face difficulties in counseling due to lack of time and insufficient pharmacy staff. Therefore, there is a need to significantly enhance the interaction between pharmacists and other healthcare professionals to facilitate inter-professional collaboration.

**Keywords:** Community pharmacy, Pharmaceutical care, Perception, Inter-professional collaboration

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## INTRODUCTION

Pharmaceutical care practice has been found to have a significantly positive influence on patient's

healthcare outcomes and disease management [1,2]. Thus, it requires coordination among community pharmacists and other healthcare providers along with awareness, training, and

communication skills for the successful implementation of pharmaceutical care practice [3]. In most developing countries, the availability and proper use of medication are the major problems faced by the healthcare system. However, drug-related issues cannot be effectively managed with community pharmacists' contributions [5]. Community pharmacists are thus responsible for safe and effective medication use as they come in contact with patients regularly during their routine visits to the doctors [6].

In Pakistan, the estimated number of community pharmacies are 63,000, while the category A pharmacists are 8102 and pharmacy technicians with categories B and C certifications are 31,000. Nevertheless, even if all these personnel were to be placed in community pharmacies, a large number of pharmacies will still be without community pharmacists. Currently, only 10% of pharmacists work as community pharmacists, and they are insufficient in meeting public needs. Further, most pharmacies are run by non-professionals and un-trained personnel [8]. Therefore, it is the duty of the Pakistan Pharmacy Council (PPC) to ensure the presence of pharmacists in all the community pharmacies to make it possible to implement the pharmacy practice and to enhance the quality of pharmaceutical care practice in Pakistan. The aim of the present study is to explore the perception of community pharmacists about the quality of pharmaceutical care services given to patients in the Khyber Pakhtunkhwa province of Pakistan.

## METHODS

### Study design

This was a cross-sectional study conducted among community pharmacists. A questionnaire was developed based on findings of a qualitative study conducted by the researcher in the province and after extensively reviewing the literature [9,10]. The questionnaire had seven sections: (a) demographic and personal information; (b) pharmacists' interaction with doctors to consult patients' prescription; (c) awareness of pharmaceutical care; (d) perception regarding patients counseling; (e) perception regarding documentation; and (f) communication with other healthcare professionals.

### Study population and setting

The survey was conducted from July to September 2014 in KPK, Pakistan. The

participants consisted of community pharmacists from seven major divisions (Bannu, Dera Ismail Khan, Hazara, Kohat, Malakand, Mardan, and Peshawar) of KPK, Pakistan. Before the start of the survey, ethical approval was obtained from the Departmental Research Ethical Committee. The participants were contacted and informed about the aims of this study, and verbal consent was obtained for their participation in the study. The data collection team then distributed the questionnaire to the participants.

### Sampling technique

A non-probability sampling technique was adopted for the study due to the absence of a database showing the precise number of community pharmacists. Thus, a survey was first done to identify community pharmacies that lack pharmacists. Subsequently, a total of 22 community pharmacies were identified as having community pharmacists.

### Validity and reliability

For the face validity of the questionnaire, the participants were selected and requested to provide their opinion regarding the importance, value, simplicity, and inclusion/exclusion of various items to make the questionnaire brief and easy for the understanding of the respondents. A reliability test was applied to all variables consisting of all domains, based on Cronbach's alpha ( $\alpha = 0.60$ ).

### Statistical analysis

The analysis of data was done by using the Statistical Package for Social Sciences (SPSS, version 20). The result of each question was reported as frequencies and percentages. The Chi-square test was applied to test the level of significance of association among the independent variables (age, gender, type of pharmacy, year of practice) and dependent variables (awareness of pharmaceutical care, perception regarding patient counseling and documentation and communication with other healthcare providers). Differences were considered statistically significant at  $p < 0.05$ .

## RESULTS

### Response rate

The survey was conducted from October to December 2014. Of the 22 community pharmacists (medical stores) with a working pharmacist identified in eight major cities of seven major divisions—Bannu (01), Dera Ismail

Khan (02), Hazara (09), Kohat (01), Mardan (01), Malakand (0) and Peshawar (04)—eighteen returned completed questionnaires showing a response rate of 81.8 %.

The demographic profile of respondents is given in Table 1. All of the participants (100 %; n = 18) were male. Majority of the respondents (61.1 %; n = 11) had a duration of experience of between 1–5 years.

### Demographic profile

**Table 1:** Demography and interaction of community pharmacists with doctors

Variable	N (%)	Variable	N (%)
<b>Age</b>		<b>Type of pharmacy</b>	
20–25	2 (11.1)	Independent	15 (83.3)
26–30	7 (38.9)	Chain	3 (16.7)
31–35	8 (44.4)	<b>Interaction with doctors</b>	<b>, N (%)</b>
36–40	1 (5.6)	Never	10 (55.6)
<b>Gender</b>		Once a week	6 (33.3)
Male	18 (100.0)	Once a day/more	2 (11.1)
Female	0 (0.0)	<b>Reason for interactions</b>	
<b>Year of practice</b>		Drug availability	6 (33.3)
<1	2 (11.1)	Side effects	2 (11.1)
1–5	11 (61.1)	Drug alternative	7 (38.9)
6–10	4 (22.2)	Drug dosage	4 (22.2)
11–15	1 (5.6)	Drug interactions	1 (5.6)

The respondents' responses towards their interaction with doctors are summarized in Table 1. The majority of the participants (55.6 %; n = 10) stated that they had never interacted with doctors, and only 33.3 % (n = 6) reported having weekly interactions with doctors. From the remaining participants (who had interactions with doctors), 38.9 % (n = 7) had interacted with the doctors for queries regarding drug alternatives and 33.3 % (n = 6) for drug availability.

The responses of the community pharmacists regarding their awareness of pharmaceutical care are summarized in Table 2. When they were asked about pharmaceutical care provision, 38.9% (n = 7) of community pharmacists reported that they were sometimes provided pharmaceutical care and made efforts to improve their patients' outcomes, which was statistically significant with respect to the respondent's age (p = 0.044) and type of pharmacy (p = 0.027). More than half of the participants (55.6%, n = 10) sometimes inquired after patient's satisfaction to evaluate their work. Most of them sometimes participated in higher education programs to improve their knowledge and competence 44.4%

(n = 8) and for patients 50.0% (n = 9), which is significant with years of practice (p = 0.004).

The responses of the participants regarding patient counseling are summarized in Table 3. No statistically significant difference was found between the responses and patients' variables. Almost all of the participants, 94.4 % (n = 17) agreed that patients require counseling by pharmacists, and many of them (83.3 %; n = 15) were involved in educating patients. Only 38.9 % (n = 7) spent enough time on each patient. The majority of the participants have not been instructing their patients about drug and/or food interaction (88.9 %; n = 16) and side effects of drugs (83.3 %; n = 15). However, half of the respondents have been instructing patients about the use of their medications (route of administration) (50.0 %; n = 9) and storage conditions (55.6%; n = 10). Meanwhile, a large number of the study participants advised patients regarding healthy diet (88.9 %; n = 16), physical exercise (72.2 %; n = 13) and smoking cessation (66.7 %; n = 12).

**Table 2:** Community pharmacists' awareness of pharmaceutical care

Question	Response				P-value†		
	Always, N (%)	Often, N (%)	Sometimes N (%)	Never N (%)	Age	Type of pharmacy	Years of practice
How often do you provide pharmaceutical care to your patients	6 (33.3)	5 (27.8)	7 (38.9)	0 (0.0)	0.408	0.424	0.364
How often do you try to improve your patients' healthcare outcomes	5 (27.8)	6 (33.3)	7 (38.9)	0 (0.0)	0.044*	0.027*	0.557
How often do you inquire of patient satisfaction with your services for evaluation of your work	1 (5.6)	3 (16.7)	10 (55.6)	4 (22.2)	0.396	0.664	0.106
How often do you participate in higher education programs to maintain and improve your competence	1 (5.6)	2 (11.1)	7 (38.9)	8 (44.4)	0.724	0.539	0.823
How often do you participate in organizing health awareness programs for patients	1 (5.6)	3 (16.7)	5 (27.8)	9 (50.0)	0.192	0.928	0.004*

**Table 3:** Community pharmacists' perception of patient counseling

Item	Response		P-value†		
	Yes N (%)	No N (%)	Age	Type of pharmacy	Years of practice
Do you think that patients need counselling by pharmacists	17 (94.4)	1 (5.6)	0.645	0.833	0.879
Are you involved in educating patient regarding the drugs	15 (83.3)	3 (16.7)	0.308	0.558	0.484
Do you spend enough time with each patient	7 (38.9)	11 (61.1)	0.689	0.674	0.807
Do you inform patients about drug and / or food interaction	2 (11.1)	16 (88.9)	0.253	0.686	0.292
Do you instruct on how to use their medications	9 (50.0)	9 (50.0)	0.767	0.500	0.779
Do you inform the patient about the side effects of drugs	3 (16.7)	15 (83.3)	0.212	0.558	0.845
Do you inform patient regarding storage conditions of drugs	10 (55.6)	8 (44.4)	0.458	0.588	0.830
Do you inform patients why they were prescribed the particular medication	5 (27.8)	13 (72.2)	0.334	0.350	0.182
Have you ever given advice on healthy eating	16 (88.9)	2 (11.1)	0.927	0.686	0.753
Have you ever given advice on physical exercise	13 (72.2)	5 (27.8)	0.289	0.650	0.544
Have you ever given advice on stopping smoking	12 (66.7)	6 (33.3)	0.463	0.245	0.503

Community pharmacists' responses to their perception regarding documentation are given in Table 4 where it can be seen that community pharmacists have poor participation in maintaining documentation. A large number of respondents have never documented patient history (medical, allergy and family) (83.3 %; n = 15), drug therapy problems potential and actual on written notes (83.3 %; n = 15) and desired

therapeutic objectives for each drug-related problem 83.3 % (n = 15). Only 44.4 % (n = 8) of participants sometimes check and sign the prescription, and 27.8 % (n = 5) sometimes find standard procedure in place for monitoring patients' progress, which is statistically significant with pharmacists' age ( $p = 0.003$ ) and experience ( $p = 0.003$ ).

**Table 4:** Community pharmacists' perception of documentation

Item	Response				P-value†		
	Always, N (%)	Often, N (%)	Sometimes, N (%)	Never, N (%)	Age	Type of pharmacy	Years of practice
How often do you document the patient's medical, allergy and family history	0 (0.0)	0 (0.0)	3 (16.7)	15 (83.3)	0.066	0.558	0.109
How often do you check and sign the prescription	0 (0.0)	3 (16.7)	8 (44.4)	7 (38.9)	0.468	0.695	0.350
How often do you find a procedure in place for monitoring patient's progress	0 (0.0)	1 (5.6)	5 (27.8)	12 (66.7)	0.003*	0.407	0.003*
How often do you document drug therapy problems potential & actual on written notes	0 (0.0)	0 (0.0)	3 (16.7)	15 (83.3)	0.794	0.558	0.845
How often do you document desired therapeutic objectives for each drug related problems	0 (0.0)	0 (0.0)	3 (16.7)	15 (83.3)	0.794	0.558	0.514

\* Indicates a significant difference

**Table 5:** Community pharmacists' communication with other healthcare providers

Item	Response				P-value†		
	Strongly disagree, N (%)	Disagree, N (%)	Agree, N (%)	Strongly agree, N (%)	Age, N (%)	Type of pharmacy, N (%)	Years of practice, N (%)
Do you maintain a professional relationship with pharmacists, doctors and nurses in your practice area	4 (22.2)	7 (38.9)	4 (22.2)	3 (16.7)	0.782	0.494	0.763
Do you discuss the patient's drug therapy problems with other pharmacists in your practice	2 (11.1)	2 (11.1)	9 (50.0)	5 (27.8)	0.525	0.362	0.799
Do you refer patients to other pharmacists whenever it is in the best interest of the patient	1 (5.6)	5 (27.8)	8 (44.4)	4 (22.2)	0.837	0.910	0.602
Do you refer a patient to a specific physician when necessary	2 (11.1)	2 (11.1)	9 (50.0)	5 (27.8)	0.713	0.792	0.401
Do you communicate patients' progress with the drug therapy to their physicians or care providers	9 (50.0)	7 (38.9)	2 (11.1)	0 (0.0)	0.205	0.730	0.509

Responses of the community pharmacists regarding maintaining a professional relationship with other healthcare providers are listed in Table 5. No statistically significant difference was found between the patients' variables and responses. Only 22.2 % (n = 4) of the community pharmacists involved in the study agreed that they maintained a professional relationship with other healthcare professionals. They also agreed that they discuss patient drug therapy problems with other pharmacists (50.0 %; n = 9) and refer patients to other pharmacists (44.4 %; n = 8). Half of the respondents (50.0 %; n = 9) agreed that they refer a patient to specific physicians

when necessary, and about half of them strongly disagreed with the idea of communicating patients' progress to drug therapy to their physicians or care providers.

## DISCUSSION

Very few medical stores, community drug stores or pharmacies were found to be operating with community pharmacists on their roll. Most of the community pharmacies bought pharmacists' licenses at a very small cost but do not give them a job. In this context, Basak and colleagues reported that legally pharmacies should be

registered by hiring a pharmacist; however, in reality, pharmacists' licenses were instead rented out [11]. Another previous Pakistani study also reported on the unavailability of pharmacists in many community pharmacies in the country [12]. The demographic profile of the respondents revealed that all the pharmacists were male, and no female community pharmacist was found. Similar findings have been reported in a previous Pakistani study [13]. The possible reasons for this could be the social and cultural barriers that women face in Pakistan. Another reason is that community pharmacists are seen as shopkeepers. This perception prevents women from working in community pharmacies [14]. Additionally, it was also found that the majority of community pharmacists were young ( $\leq 35$  years). In a previous study on community and hospital pharmacies in Malaysia, the reported age of the participants was similar [15].

The majority of community pharmacists had rare communication with medical practitioners. It was found that pharmacists were contacted once a week only to inquire about the drug stock or drug alternatives. This indicated that community pharmacists in Pakistan have limited contact with physicians. Previously, similar findings were reported in Ireland, which also indicated poor interaction between community pharmacists and physicians. This study also highlighted that the main reason for this poor interaction was the lack of awareness [16]. The doctors had little knowledge about the professional skills and training of community pharmacists, which led to non-appreciation of community pharmacists' contributions. These findings are further supported by a previous study conducted in Canada and the Netherlands [17], which concluded that most doctors did not know the role of pharmacists. This resulted in limited contact between these two important categories of healthcare professionals.

The present study also found that only a few of community pharmacists frequently provided pharmaceutical care and to improve their patients' health outcomes. Furthermore, a large number of community pharmacists were never involved in educational programs. This shows that community pharmacists have little interest in improving their knowledge and clinical skills. This is in contrast with a Malaysian study [18] in which a large number of community pharmacists had shown interest in continuing education and emphasized improving patients' knowledge regarding their medical conditions.

Moreover, a study showed the significance of community pharmacy educational programs and

reported that educational programs were equally important for improving the knowledge of participating pharmacists and students [19]. Another study also highlighted the importance of community pharmacy training programs and reported that these training programs are efficient tools for highlighting and resolving the issues pointed out by community pharmacists [20]. Similarly, the importance of community pharmacy education programs in the improvement of knowledge, interaction, and guidance skills of community pharmacists has also been highlighted [21]. Additionally, the afore-mentioned reports are further supported by the outcomes of a randomized controlled trial that suggested that pharmaceutical care interventions conducted by well-trained pharmacists bring statistically significant improvements in patients' outcomes [22]. In the current study, the majority of the community pharmacists agreed that patients needed guidance from pharmacists. This is accords with a previous study [23] in which the pharmacists were of the view that patients need guidance about the name of the drug, its storage, administration, side effects, and interactions.

### **Limitations of the study**

The limitation of the study includes the fact that it was conducted in Khyber Pakhtunkhwa Province, and hence, the results of the study cannot be applied to the other three provinces of the country.

### **CONCLUSION**

Based on these findings, community pharmacists in Pakistan are not actively involved in the delivery of pharmaceutical care services and are experiencing several barriers in their active participation in patient care, mainly due to their insufficient number. It is thus the responsibility of the pharmacy council to increase their number and ensure their availability in community pharmacies. Additionally, poor interaction was found between pharmacists and other healthcare professionals, therefore inter-professional collaboration needs enhancement. Further, prescription handling and documentation are poorly done and should be improved upon to achieve better pharmaceutical care practice.

### **DECLARATIONS**

#### ***Conflict of interest***

No conflict of interest is associated with this work.

### Contribution of authors

We declare that this work was done by the authors named in this article and all liabilities pertaining to claims relating to the content of this article will be borne by the authors.

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