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Research Article

Doctors' Perception and Expectations of the Role of the Pharmacist in Punjab, Pakistan

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Abstract

Purpose: To investigate doctors' perception and expectations of the role of pharmacists in Pakistan's healthcare system.
Methods: This was a cross-sectional study and the study population consisted of 462 medical doctors from three Pakistani cities in Punjab State, namely, Islamabad, Faisalabad and Lahore. The doctors were selected from government hospitals in these three cities.
Results: Three hundred and fifty four questionnaires were returned, giving a response rate of 76.6 %. Sixty eight percent of the doctors appeared comfortable with pharmacists playing patient-centred roles. A majority (84.5 %, n=299; p=0.022) expected pharmacists to take personal responsibility for resolving any drug-related problem. Furthermore, 76 % of them considered pharmacists as knowledgeable drug therapy experts. Only 50 % of the doctors thought that pharmacists apply their drug knowledge in practice while 11 % indicated that pharmacists routinely counselled their patients.
Conclusion: The doctors considered pharmacists drug information experts but their expectation of pharmacists as providers of quality clinically-focused pharmacy services was low. The doctors were also uncomfortable with pharmacists providing direct patient care.

Keywords: Doctor, Pharmacist, Perception, Expectation, Patient care, Pakistan.

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INTRODUCTION

Collaboration among the various healthcare professionals with their respective expertise can lead to significant improvement in patient care [1]. Historically, the physician diagnoses and prescribes while the pharmacist compounds and dispenses medicines. Increasingly, however, the pharmacist has gained recognition as an important professional in the multidisciplinary provision of health care. The paradigm shift for pharmacy practice took place in 1990, when Hepler and Strand introduced the concept of 'pharmaceutical care'[2]. The philosophy of pharmaceutical care is now accepted worldwide as a primary mission of pharmacy [3]. The concept of pharmaceutical care can only be achieved if pharmacists and doctors agree on each other's role, as different perceptions by pharmacists and doctors regarding the pharmacist's role could reduce the level of their cooperation [4].

Several published studies have reported the existence of a communication gap between pharmacists and doctors, including the factors responsible [5,6]. In these studies, physicians were reported to be receptive to pharmacists providing several clinical services. Acceptance of pharmacists providing these services is dependent on physicians' perception of pharmacists' competency [7]. Medical practitioners expect pharmacists to perform patient counselling, but the latter are not performing this service optimally [5]. The most common complaints of medical practitioners against pharmacists in this regard were provision of inappropriate drug information, dispensing of unauthorized refills, and making inappropriate statements to patients [8].

In Pakistan, the Ministry of Health is responsible for all matters pertaining to national planning and coordination in the healthcare sector. The number of pharmacists in both public and private sectors is small but has been increasing over the past few years. Hospital pharmacists focus more on managerial matters than on clinical services which are very limited. Furthermore, there is no separation of the role of prescribing from that of dispensing in the Pakistani setting [9]. There are several reasons for the little recognition given to the pharmacy profession in Pakistan, and this includes dearth of pharmacists in the public health sector [10].

The Pakistan health authorities has sought to implement pharmaceutical care services within the nation's healthcare system in order to improve patients' quality of life and drug use. Successful implementation of pharmaceutical care requires cooperation between doctors and pharmacists. Therefore, the main aim of this study was to evaluate the medical practitioners' perception of the role of pharmacists as well as the level of interaction between pharmacists and doctors in Punjab State of Pakistan.

METHODS

Design

The study was a cross-sectional study. The questionnaire had four sections: personal information, doctor's perception, expectations, and experiences dealing with pharmacists. This was adapted from the questionnaire used and validated for content in Kuwait [11]. Each section of the questionnaire included a set of statements in which the respondents were asked to indicate their level of agreement with, using a 4-point Likert scale, where 1 = strongly disagree; 2 = disagree; 3 = agree; and 4 = strongly agree. In addition, there was one question which required a 'yes' or 'no' response. A four-point Likert scale was used in order to avoid confusion with the 'neutral' responses. Section 1 of the questionnaire measured the level of doctors' comfort with pharmacists carrying out specific duties; section 2 measured their expectations of pharmacists; section 3 measured their actual experience dealing with pharmacists. The questionnaire

was validated for its content by seven practising doctors.

This study was conducted from January through March 2009 in Pakistan. The study population consisted of medical doctors from three cities of Punjab State - Islamabad, Faisalabad and Lahore. As per a World Health Organization (WHO) report, a majority of southern Pakistan's population lives along the Indus River, in an arc consisting of these three cities [12].

Sample size was calculated by Roasoft soft sample size calculator. A population of 462 doctors, randomly selected from government hospitals in the three cities (154 doctors per city) was used. The doctors were contacted and given an explanation of the purpose of the study, and their verbal consent to participate in the study was obtained. The questionnaires were hand-delivered by a data collection team. Out of the 462 questionnaires received, 125 were from Islamabad, 122 from Lahore and 107 from Faisalabad.

Data analysis

The data were computed and analyzed using Statistical Package for Social Sciences (SPSS, version 15) and descriptive analysis was conducted. The results of each item in the questionnaire were reported as percentage and frequencies. The Chi–square test was used to test the significance of association between the independent variables (gender, length of medical practice, specialty, and status) and the dependent variables (respondent's level of comfort, expectations and experience). Statistical significance was accepted at P value of < 0.05.

RESULTS

Of the total 462 questionnaires distributed, 354 questionnaires were returned, giving a response rate of 76.6 %. The demographic data for the respondents are summarized in Table 1.

Table 1: Doctors' personal information

Parameter	n (%)
Age	
20-30	7 (2.0)
31-40	129 (36.4)
41-50	148 (41.8)
>50	70 (19.8)
Gender	
Male	235 (66.4)
Female	119 (33.6)
Status	
Trainee doctors*	80 (22.6)
Medical officers	170 (48.0)
Senior registrar	70 (19.8)
Registrar**	19 (5.4)
Consultant	15 (4.2)
Specialty	
Medicine	141 (39.8)
Paediatrics	87 (24.6)
ENT***	60 (16.9)
Surgery	27 (7.6)
O & G****	39 (11.0)
Year of Practice	
1-10	249 (70.3)
11-20	102 (28.8)
21-30	3 (0.8)

Recent graduates
*** Monitor clinical practice in hospital*
**** Ear Nose and Throat*
***** Obstetrics & Gynaecology*

Mean age was 33.4 ± 5.48 years while 66.4 % (n = 235) were male. The majority of the doctors obtained their medical qualifications from local universities. Two-thirds of the doctors said they have never interacted with pharmacists (see Table 2). For those doctors who interacted with pharmacists, the main reason for their interaction was to check on the availability of a medicine in the pharmacy (83.3 %), medicine alternatives (61.9 %), side effects (38.7 %), drug dosage (26.3 %), and drug interaction (15.3 %).

The results of the level of comfort of doctors in dealing with pharmacists carrying out specific duties are shown in Table 3. A majority of the doctors were moderately

comfortable (65.0%, n = 230) with pharmacists providing patient education. With respect to providing patient education, there was significant association between specialty and length of practice (p = 0.002, p = 0.001, respectively). Doctors were also moderately comfortable (60.2%, n = 213) with pharmacists suggesting the use of non-prescription medicine. There was a significant difference (p = 0.003) in the response to this question in relation to their status.

With regard to pharmacists treating minor illnesses, more than half of the doctors were comfortable (59.6 %, n = 211) and a significant association was observed between the responses and the status and specialty of doctors (p = 0.004, p = 0.005, respectively). Nearly half of the doctors were moderately comfortable (47.7%, n = 169) with pharma-cists monitoring pharmacotherapeutic regimes, and a significant difference was found with regard to practice specialty. (p = 0.042).

The results showing doctor's expectations of pharmacists are listed in Table 4. A majority of the doctors (84.5 %, n = 299) expect the pharmacist to take personal responsibility for resolving drug-related problems, and a significant difference was noted with respect

Table 2: Interaction of doctors with pharmacists

Parameter	N	%
Frequency of interaction		
Never/ Rarely	212	59.9
Once a week	103	29.1
Once or more a day	39	11.0
Reason for interaction		
Medicines availability queries	295	83.3
Medicine alternatives queries	219	61.9
Medicines dosage queries	93	26.3
Side effect queries	137	38.7
Drug interaction queries	54	15.3

Table 3: Level of doctors' comfort with Pharmacists with Pharmacist

| Pharmacists' role | Response* | | | P value** | | | |
	Doctors uncomfort-able n (%)	Doctors moderately comfortable n (%)	Doctors comfort-able n (%)	Gender	Status	Practice specialty	Year of practice
Providing patient education	56 (15.8)	230 (65.0)	68 (19.2)	0.841	0.006	**0.002**	**0.001**
Suggestion of non-prescription medicine	112 (31.6)	213 (60.2)	29 (8.2)	0.316	**0.003**	0.017	0.018
Suggesting the use of prescription medicine	58 (16.4)	270 (76.3)	26 (7.3)	0.313	0.017	0.159	0.943
Suggest use of prescription medication to physician	54 (15.3)	257 (72.6)	43 (12.1)	0.915	0.529	0.016	0.386
Treating of minor illnesses	211 (59.6)	78 (22.0)	65 (18.4)	0.379	**0.004**	**0.005**	0.119
Designing and monitoring pharmaco-therapeutic regimes	112 (31.6)	155 (43.8)	87 (24.6)	0.788	0.351	0.140	0.315
Monitoring pharmacotherapeutic regimes and plans	90 (25.4)	168 (47.5)	96 (27.1)	0.055	0.507	**0.042**	0.535
Identifying and preventing prescription errors	112 (31.6)	169 (47.7)	73 (20.6)	0.848	0.524	0.163	0.052

*Responses are for all respondents; **Chi-square*

Table 4: Doctors' expectations of pharmacists

| Expectation | Responses* | | | | p value** | | | |
	Strongly disagree n (%)	Disagree n (%)	Agree n (%)	Strongly agree n (%)	Gender	Status	Practice specialty	Year of practice
A	**18 (5.1)**	**25 (7.1)**	**299 (84.5)**	**12 (3.4)**	**0.825**	**0.007**	**0.022**	**0.056**
B	0 (0)	66 (18.6)	269 (76.0)	19 (5.4)	0.340	0.228	0.692	0.158
C	29 (8.2)	95 (26.8)	63 (17.8)	167 (47.2)	0.226	0.061	0.348	0.542
D	4 (1.1)	8 (2.3)	285 (71.8)	66 (18.6)	0.681	0.157	**0.001**	0.332
E	5 (1.4)	29 (8.2)	254 (17.8)	66 (18.6)	0.697	0.053	0.007	0.177
F	21 (5.9)	76 (21.5)	238 (67.2)	19 (5.4)	0.645	0.140	0.005	0.736
G	9 (2.5)	160 (45.2)	168 (47.5)	17 (4.8)	0.393	0.216	0.399	0.053
H	62 (17.5)	104 (29.4)	174 (49.2)	14 (4.0)	0.123	**0.002**	0.006	0.005

A = To take personal responsibility for resolving any drug-related problems
B = To be knowledgeable drug therapy expert
D = To assist me in designing drug therapy treatment plans for my patients
D = To monitor my patients' response to drug therapy
E = Educate patient about save use of medication
F = To know the specific indication of each drug I prescribe.
G = To be available to me for consultation when I see patients (e.g. during rounds)
H = To assist my patients in selecting appropriate non-prescription medications
*Responses are for all respondents; **Chi-square

to their specialty (*p* = 0.022). Nearly three-quarters (71.8 %, n = 285) of the doctors expect pharmacists to monitor patient drug therapy response, and this finding was statistically significant (p = 0.001) with respect to practice specialty. About half of the doctors (49.2 %, n = 174) agreed with the concept of pharmacists selecting appropriate non-prescription medications; a significant difference (p=0.002) was demonstrated with respect to their status.

Responses indicating doctors' opinions of pharmacists are shown in Table 5. A majority of the respondents (81.8 %, n = 287) agreed that pharmacists were reliable sources of general drug information, and there was a significant difference with respect to their status (*p* = 0.021). When doctors were asked about pharmacists counselling patients on the safe and appropriate use of their medicines, a majority disagreed. The response also showed a significant difference with respect to length of practice (*p* = 0.001). Less than half of the respondents (44.6 %, n = 159) disagreed when asked about pharmacists routinely informing doctors about errors found in their prescriptions. A

significant difference was found with regard to length of practice (*p* = 0.002).

On the willingness of pharmacists to take personal responsibility for resolving drug-related problem, 52.3 % (n = 185) of the respondents showed a positive disposition, and this was significant with respect to their status (*p* = 0.001). A majority of doctors (72.3 %, n = 256) showed willingness to consult pharmacists regarding patient pharmaco-therapy and this was significant respect to their status and specialty (*p* = 0.002, *p* = 0.001, respectively).

DISCUSSION

Pharmacy practice in developing countries varies significantly from one country to another. In the case of Pakistan, the pharmacy profession is at an early stage of its development in terms of pharmaceutical care. The number of pharmacists employed in most public sector hospitals are inadequate. Consequently, their functions limited to drug dispensing, procurement and inventory control [13].

Table 5: Doctors' opinions of pharmacists

| Opinion | Responses* | | | | p value** | | | |
	Strongly disagree n (%)	Disagree n (%)	Agree n (%)	Strongly agree n (%)	Gender	Status	Specialty	Length of practice
A	1 (0.3)	29 (8.2)	287 (81.8)	37 (10.5)	0.058	**0.021**	0.145	0.103
B	29 (8.2)	141 (39.8)	177 (50.0)	7 (2.0)	0.925	0.023	0.449	0.918
C	84 (23.7)	221 (62.4)	39 (11.0)	10 (2.8)	0.406	0.115	0.905	**0.001**
D	87 (24.6)	159 (44.6)	95 (26.8)	13 (3.7)	0.927	0.058	0.406	**0.002***
E	84 (23.7)	158 (44.6)	104 (29.4)	8 (2.3)	0.989	0.133	0.093	0.924
F	93 (26.3)	191 (54.0)	55 (15.5)	15 (4.2)	0.649	0.483	0.848	0.524
G	107 (30.2)	185 (52.3)	57 (16.1)	5 (1.4)	0.925	**0.001**	0.086	0.188
H	7 (2.0)	61 (17.2)	256 (72.3)	30 (8.5)	0.366	**0.002**	**0.001**	0.007

A = Pharmacists are a reliable source of general drug information
B = Pharmacists are a reliable source of clinical drug information
C = Pharmacists routinely counsel my patients regarding the safe and appropriate use of their medications
D = Pharmacists routinely inform me if they discover clinical problems with my prescriptions'
E = Pharmacists routinely inform me about more cost-effective alternatives to the drugs
F = Pharmacists frequently ask me to clarify for them the drug therapy objectives.
G = Pharmacists appear willing to take personal responsibility for resolving any drug-related problems they discover
H = I am wiling to in-corporate the pharmacotherapy for the patient with consultation of the pharmacist
*Responses were for all respondents; **Chi-square

Respondents in this study, when asked about their frequency of interactions with pharmacists, surprisingly only 11 % of doctors interact with the pharmacist once daily and more than half of them never do, This finding is consistent with a qualitative study [9] which showed that Pakistani doctors consider pharmacists as an integral part of the medical team. The reason, by 83.3 % of the doctors, for interacting with pharmacists was to check on the availability of medicine, thus indicating that the pharmacist is viewed by them as a mere procurer and dispenser of medicines.

When asked how comfortable with, and receptive to pharmacists they were on a wide range of patient-oriented activities, doctors indicated that they were moderately comfortable and receptive. This agrees with an earlier finding [4,14,15] which reported that a majority of physicians were receptive to an expanded role for the pharmacist as a drug information expert. However, a small majority of the respondents appeared uncomfortable when asked about pharmacists treating minor illnesses, a finding which buttresses a pervious study which showed that doctors are reluctant to accept any pharmacist's role that includes prescribing of any sort [16].

Doctors' responses were largely positive when asked about some of their expectations of pharmacists; for example, while they strongly agreed to be assisted by the pharmacist in designing drug therapy treatment plans for patients, less than half of the respondents showed the same attitude towards direct interaction by pharmacists with patients. Again, this is in line with an observation reported elsewhere [3]. Respondents agreed that pharmacists were a reliable source of general drug information. Yet, more than half of the respondents had no regular interaction with pharmacists. Doctors agreed that patient medication counselling is one of the core services that should be provided by pharmacists, and this is in consonance with the results of a study carried out in Sudan [3]. Our study showed that doctors have high expectations of the pharmacist as a knowledgeable drug therapy expert, but at the moment, pharmacists in Pakistan are unable to perform this role, due possibly to the pharmacist's lack of confidence. Factors that contribute to this lack of confidence may include deficiency in

the clinical content of the pharmacy curriculum and inadequate clinical pharmacy training. These have been identified in countries where pharmacy practice is in the early stage of pharmaceutical care development [3].

Limitations of the study

The results reported here are subjected to some limitations. The study was conducted in only three cities of Punjab State, namely, Islamabad, Faisalabad and Lahore, and so data cannot be generalized to apply to the whole of Punjab State. Furthermore, the study only involved doctors in government hospitals and not those in private practice or sector, so the findings cannot be said to apply to all doctors in Punjab State.

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CONCLUSION

To the best of our knowledge, this is the first survey of doctors' perception of pharmacists' role in the Pakistani public healthcare system, and it demonstrates that doctors were receptive to an expanded role for pharmacists, and also considered pharmacists drug information experts. However, doctors' expectation of pharmacists' did not match their actual experience dealing with the latter. Part of the problem here may be attributed to the shortage of pharmacists in the hospitals used for the study and the fact that pharmacists are more focused on product-oriented aspects of their practice than patient-orientated pharmaceutical care.

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