

Expanding Role of Pharmacists in Delivering Clinical Services; General Practitioners' and Pharmacists' Viewpoint

Sadia Shakeel^{1*}, Wajih Iffat¹, Fatima Fasih² and Yumna Nida Yousuf¹

¹Dow College of Pharmacy, Dow University of Health Sciences, Karachi – Sind, Pakistan

²Dow International Medical College, Dow University of Health Sciences, Karachi – Sind, Pakistan

Abstract

The current study was planned to evaluate the perception of general practitioners and pharmacists regarding the role of the pharmacist in delivering clinical services and their willingness to work and collaborate with each other. The present study was cross-sectional and conducted from July 2015 till Nov 2015. The study population comprised of pharmacists and general practitioners, who were surveyed with a 42 items questionnaire. Descriptive statistics were employed to report the response of participants to questionnaire items. The association of the profession on the responses of participants towards the role of clinical pharmacists was determined by using an Independent sample t test at $p < 0.05$ significant level. It was good to observe that both pharmacists and general practitioners in high proportion (>90%) thought that clinical pharmacist should be a source of clinical medicines information to general practitioners such as adverse effects of medicines and selection of a medicine for a particular disease state. Pharmacists (89%) and general practitioners (70.8%) considered it undoubtedly true that involvement of clinical pharmacist in medication management would enhance relationship between general practitioners and pharmacists and >90% of them agreed that the service would improve patients' medicine-related health outcomes. General practitioners considered that pharmacists are drug information experts. Both groups were ambivalent about the government policies and did not believe that the current policies give sufficient recognition to patient care approach. The government should develop strategies to strengthen doctors-pharmacists relation, thereby enhancing the role of pharmacists in primary care.

Keywords: Collaboration; Health status; General practitioners; Pharmacists; Pharmaceutical care; Pakistan

Introduction

Clinical Pharmacy is optimized as the area of practice in which pharmacists provide patient care, drug treatment and promotes public health [1]. The clinical pharmacy practices incorporates the theory of pharmaceutical care and medicine management [2]. Hepler and Strand's explanation of pharmaceutical care, 'the responsible provision of drug therapy for the purpose of achieving definite outcomes which improve the patient's quality of life', encompassed pharmacist contribution in the design, implementation and monitoring of a therapeutic plan, in association with the patient and other healthcare professionals, and helped to modify the spotlight of clinical pharmacy activities from processes to therapeutic outcomes [3]. The cooperation between different health professionals with their particular expertise can lead to a significant improvement in patient care [4]. Traditionally, the physician diagnoses and prescribes whilst the pharmacist compounds and dispenses medicines. However, the pharmacist has gained acknowledgment as an imperative expert in the multidisciplinary provision of health care. The need of pharmacist has been identified by World health Organization (WHO) in developing countries and the role of pharmacists in the health care sector has been accepted worldwide [5]. According to E. C. Elliott "pharmacy profession is fundamentally moral in nature," and pharmacists are working in different practicing areas to ensure the patient care. The model shifted for pharmacy practice in 1990, when Hepler and Strand initiated the theory of 'pharmaceutical care' [3] leading to intrusion on the physician's role. Physicians usually have to oppose pharmacists performing independent decision-making tasks, except to support addition tasks such as patient counseling. Prescribing is still almost exclusively in the physician's domain, pharmacists' contribution about managing drug therapy eventually depends on physicians' compliance to recognize it [6].

In Pakistan health authorities wanted to put into practice pharmaceutical care services in the healthcare system to advance patients'

quality of life and drug use. Flourishing execution of pharmaceutical care requires collaboration between doctors and pharmacists. In Pakistan, even though the historic model of the pharmacist is still very influential, the roles of pharmacists are transforming in an attempt to match with the requirements of a complex healthcare system. For the attainment of utmost therapeutic benefits and clinical outcome, Pakistani pharmacist are recognizing the importance of clinical pharmacy and accepting their role toward the safe and proper use of medicine by the patient. Numerous published studies have reported the subsistence of a communication breach between pharmacists and doctors [7,8]. The current study was planned to evaluate the perception of general practitioners (GPs) and pharmacists regarding the role of the clinical pharmacists (CPs) in delivering clinical services and their willingness to work and collaborate with each other.

Method

Study design and setting

The present study was cross-sectional and conducted from July 2015 till Nov 2015. The study population comprised of pharmacists and GPs working in different public and private sector hospitals and clinics of Karachi. Pharmacists and GPs were surveyed with a 42 items

***Corresponding author:** Sadia Shakeel, Dow College of Pharmacy, Dow University of Health Sciences, Karachi - Sind – 75270, Pakistan, Tel: +92 323 2104415; E-mail: sadia.shakeel@duhs.edu.pk

Received November 18, 2015; **Accepted** November 30, 2015; **Published** December 07, 2015

Citation: Shakeel S, Iffat W, Fasih F, Yousuf YN (2015) Expanding Role of Pharmacists in Delivering Clinical Services; General Practitioners' and Pharmacists' Viewpoint. J Pharma Care Health Sys 2: 148. doi:10.4172/2376-0419.1000148

Copyright: © 2015 Shakeel S, et al. This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

questionnaire to determine the role of clinical pharmacists as perceived by pharmacists and GPs and the potential inhibitors to pharmacists increasing their role in medicines management. The study population was corresponded through email or direct correspondence.

Study tool

The questionnaire was adapted from the previous studies [8] to determine the role of CPs as perceived by pharmacists and GPs with a little modification to suit the Pakistan's environment. In addition to the demographic information of the pharmacists and GPs, the questionnaire consisted of two parts. First part consisted of twenty questions that explored the role of CPs as perceived by pharmacists and GPs. Part two consisting of twenty two questions; explored potential inhibitors to pharmacists increasing their role in medicines management. Five point Likert scale was used ranging from 1="strongly disagree" to 5="strongly agree." As the questionnaire previously used in another research was adopted and modified, Cronbach's alpha was calculated to measure internal reliability among items.

Data analysis

The retrieved questionnaires were entered into Statistical Package for Social Sciences (SPSS 20.0, Chicago, IL) for analysis. The demographic data of the participants was estimated in frequencies and percentages. Descriptive statistics were employed to report the response of respondents to questionnaire items. The association of the profession on the responses of participants was determined by using an Independent sample t test at $p < 0.05$ significant level.

Results

Out of 300 survey questionnaires, only 212 were returned back in useable form. Hence the response rate was 70.66%. Table 1 showed the demographic of the study population. The study population comprised of 39.15% males and 60.84% females. More than half (56.6%) were GPs whereas 43.39% were pharmacists rendering their services in different hospitals and clinics. Mass population (68.86%) was involved in clinical healthcare setting. The internal reliability score for questions used in study was 0.810.

Pharmacists' and GPs' perceptions of the role of CP are depicted in Table 2. On inquiring about the technical duties to be performed by CP, GPs (82%) and pharmacists (85%) believed that CP should provide technical prescribing information and availability of medicines to GPs. The responses of the participants were contrary on statement that CP should be mostly involved in the technical component of dispensing (counting tablets and labeling) and provide a "closed shop" service that just receives prescriptions from the GPs and couriers the medicine to the patient. Mass population (>90%) of both pharmacists and GPs were agreed that CP should check that prescriptions have correct dose for the patient and prescriptions do not have drug-drug interactions. Greater than 80% of respondents considered that CP should counsel patients about relevant adverse reactions to their medicine. Pharmacists (77.5%) and GPs (56%) thought that CP monitors medicines for adverse reactions. More than 70% pharmacists accept it as true that CP should be involved in monitoring the effectiveness of medicines by examining the patient's progress. It was good to observe that both pharmacists and GPs in high proportion (>90%) thought that CP should be a source of clinical medicines information to GPs such as adverse effects of medicines and selection of a medicine for a particular disease state. More than 80% of respondents were agreed on the role of CP to advice on the cost-effectiveness of medicines for disease states.

Responses of both pharmacists and GPs regarding perceived barriers to pharmacists' involvement in medication management are illustrated in Table 3. Pharmacists (81%) and GPs (71.7%) thought that CP should increase their involvement in medicines management. Pharmacists (77.5%) and GPs (80.8%) deemed that other than to dispense prescriptions, pharmacists are on the periphery of the core health care team. Only 39% GPs considered that by providing this service, pharmacist would not be calling the GP's judgment into question. More than half GPs thought that pharmacist would be challenging the GP's authority. Pharmacists (87.5%) and GPs (85.9%) thought that this is not duplication of the GP's work. More than 85% GPs stated that they don't have time to discuss patient-related medicine issues with pharmacists. Around 65% GPs opined that pharmacist has sufficient confidence in clinical knowledge to provide this service however only 22% agreed that pharmacists are sufficiently trained to provide this service. Pharmacists (55%) and GPs (71.7%) opined that the patient may get conflicting information regarding medicines use. Pharmacists (89%) and GPs (70.8%) considered it undoubtedly true that involvement of CP in medication management would enhance relationship between GPs and local pharmacists and (>90%) agreed that the service would improve patients' medicine-related health outcomes. Only 22% pharmacist thought they should be comfortable with traditional dispensing as primary role whereas 87.5% felt comfortable being accountable for medicine-related decisions required to fulfil a medicines management role. Pharmacists (86%) thought that they can give unbiased advice on the use of medicines despite commercial pressure. Majority (82.5%) pharmacist believed that becoming more involved with medicines management would allow physician more time to work on more complex patient issues. The association of the profession on the responses of participants towards the role of clinical pharmacists was determined by using an Independent sample t test at $p < 0.05$ significant level. Majority of the statements were statistically significant.

Characteristics	Frequency (Percentages)
Gender	
Male	83 (39.15)
Female	129 (60.84)
Age(Years)	
25-30 yrs	94 (44.33)
31-35 yrs	57 (26.88)
36-40 yrs	49 (23.11)
41-50 yrs	9 (4.24)
51 and above	3 (1.41)
Profession	
Physician	120 (56.60)
Pharmacist	92 (43.39)
Organization	
Private	107 (50.47)
Government	105 (49.52)
Experience	
Less than 1 years	42 (19.81)
1-5 years	52 (24.52)
5-10 years	77(36.32)
10-15 years	38 (17.92)
more than 15 years	3 (1.41)
Employment	
Academic	66 (31.13)
Clinical	146 (68.86)

Table 1: Demographics of survey respondents.

Items in questionnaire	GPs (%)		Pharmacist (%)	
	Yes	No	Yes	No
Technical roles				
Maintain patient's records*	86.2	12	77.5	12.5
Provide technical prescribing information and availability of medicines to general practitioners	82	16.4	85	5
Be mostly involved in the technical component of dispensing (counting tablets and labeling)*	82	5.1	47.5	17.5
Provide a "closed shop" service that just receives prescriptions from the general practitioner and couriers the medicine to the patient*	56.7	6.4	27	65
Checking functions				
Check prescriptions for the correct dose *	99	0	95	5
Check prescriptions do not have drug-drug interactions	95	0	92.5	5
Check a prescription is not contraindicated for the patient	70.3	2.2	95	5
Counseling functions				
Counsel patients about relevant adverse reactions to their medicines	80.4	11	82.5	5
Counsel patients on the expected benefits of the medicine	68	9.4	72.4	2.5
Monitoring functions				
Monitor medicines for adverse reactions*	56	24.3	77.5	7.5
Monitor patients for medication noncompliance*	32.3	7	73.4	10
Monitor the effectiveness of medicines by monitoring the patient's progress	45	9	72.5	7.5
Advice to prescribers				
Be a source of clinical medicines information to general practitioners such as adverse effects of medicines*	93	5	90	7.5
Be a source of clinical advice to general practitioners, such as selection of a medicine for a particular disease state*	90	5.3	92	5
Advise general practitioners on the monitoring of serum drug concentrations*	89.1	6.3	80	12.5
Advise on the cost-effectiveness of medicines for disease states*	85	4	87	10

Scores 1 and 2=definitely or probably yes.

Scores 4 and 5=definitely or probably no.

*indicates that the difference between the professional groups was statistically significant (p<0.01)

Table 2: Pharmacists' and general practitioners' perceptions of the role of clinical pharmacists.

Items in questionnaire	GPs (%)		Pharmacist (%)	
	Agree	Disagree	Agree	Disagree
Do you think pharmacists should increase their involvement in medicines management?	71.7	15	81	2.5
The funding stream currently does not support pharmacists and general practitioners collaborating on medication management*	88.3	1	65	7.5
Government policy now gives sufficient recognition to this approach to patient care*	12.5	55	20.1	67.9
Other than to dispense prescriptions, pharmacists are on the periphery of the core health care team*	80.8	1	77.5	22
Patients would find this unacceptable*	28.4	10	45	20
By providing this service, pharmacist would not be calling the general practitioner's judgment into question	39.2	17.2	58	20
Pharmacist would be challenging the general practitioner's authority*	55	20.8	47.5	35
This is not duplication of the general practitioner's work*	85.9	5	87.5	11.5
Physician don't have time to discuss patient-related medicine issues with pharmacists	86	11.7	75	15
Pharmacist has sufficient confidence in clinical knowledge to provide this service.	64.1	5.8	85	10
Pharmacists are sufficiently trained to provide this service*	22	23.3	72.5	7.5
The patient may get conflicting information regarding medicines use*	71.7	14.2	55	25
This would enhance relationship between general practitioners and local pharmacists*	70.8	16.7	89	5
This service would improve patients' medicine-related health outcomes*	97	1	99	0
The current health environment provides a good opportunity to change and redefine the roles of health care providers*	66	5	60	15
There are enough changes in health systems without having to cope with adapting to new roles	71.7	20	57.5	12.5
Pharmacist should be comfortable with traditional dispensing as primary role	42.5	35	22	42
Pharmacist is comfortable being accountable for medicine-related decisions required to fulfil a medicines management role*	84.8	10	87.5	7.5
The relationship between community pharmacists and general practitioners is not too financially competitive to encompass this service*	30	29.2	72.4	5
Pharmacists can give unbiased advice on the use of medicines despite commercial pressure	84	15	86	10
If patients paid for the service, there would be unacceptable competition for income from the patient source*	61.7	5	57.5	15
A pharmacist becoming more involved with medicines management would allow physician more time to work on more complex patient issues	43.3	35	82.5	7.5

Scores 1 and 2=disagree or strongly disagree

Scores 4 and 5=strongly agree or agree.

*indicates that the difference between the professional groups was statistically significant (p<0.01)

Table 3: Perceived barriers to pharmacists' involvement in medication management.

Discussion

The world medical associations including WHO are making attempts to deliver cost-effective quality health care globally [9]. The involvement of pharmacist in health care team has been proved cost-effective rather than an extra cost added to the treatment cost, which is evident because of treatment success, avoidance of adverse drug events, optimization of complex regimens, designing of adherence programs, and recommendation for cost-effective therapies. The health care team members need synchronization and alliance in order to fulfil their responsibilities. Patient care can be improved by coordinated work between physicians and pharmacists. Due to varying side effects of numerous medications, it is imperative that the pharmacist and physicians work together to reduce health care cost as well as provide the best available care to patients. The medication related health problem requires close interaction between physicians and pharmacist to be avoided and resolved [10]. This interaction demands an expanding role for the pharmacist to ensure cost effective and potential patient cares. In current study pharmacists (81%) and GPs (71.7%) thought that CP should increase their involvement in medicines management. Pharmacists (77.5%) and GPs (80.8%) deemed that other than to dispense prescriptions, pharmacists are on the periphery of the core health care team. Another study reported that majority of the respondents (GPs) agreed that pharmacists were reliable sources of general drug information [7]. Linda reported that more than half of the physicians were comfortable with pharmacists providing patient education. Most physicians expect the pharmacist to educate their patients about safe and appropriate use of drugs; 54% of the physicians agreed that pharmacists were always a reliable source of information [11].

The complex relationship between physician and pharmacist has been outlined by other studies [12-14]. In the past, role of physician was to prescribe and pharmacist function was limited to compounding and dispensing the medication. They treated each other as competitors rather than the part of same team. In our study, only 39% GPs considered that by providing this service, pharmacist would not be calling the GP's judgment into question. More than half GPs thought that pharmacist would be challenging the GPs' authority. On the other hand, only 22% pharmacist thought they felt comfortable with traditional dispensing as primary role whereas 87.5% felt comfortable being accountable for medicine-related decisions required to fulfil a medicines management role. Pharmacists (86%) thought that they can give unbiased advice on the use of medicines despite commercial pressure. The pharmacist's role has evolved into much more than compounding and dispensing medication. It has grown to be more clinically aware and now incorporates various aspects of patient care for instance community institution, academic teaching, ambulatory health services and long term care amenities. In majority of the developed countries the responsibilities of pharmacist has been transformed leading to a major role in primary health care [15,16]. In the health sciences discipline, clinical pharmacy is an occupation that provides patients care through enhance drug therapy leading to increased health, wellness and disease prevention. The focus of clinical pharmacy is the well-being of the patient, rather than medication related services [17]. The major reason for the advent of this field is due to the dissatisfaction with old practice norms and the increasing requirement for a proficient health care expert with a broad knowledge in the field of pharmacotherapy. The clinical pharmacists have become the cost effective and safe provider of health care information to the patients [18,19]. GPs in Malaysia dispense medications and still considered it as an element of their professional practice. There is still no demarcation of responsibilities

related to drug dispensing and prescribing between doctors' clinics and pharmacies. Registered pharmacists are not the only professionals with the accountability of dispensing medications [20]. The responses of the participants in our study were contrary on statement that CP should be mostly involved in the technical component of dispensing (counting tablets and labeling) and provide a "closed shop" service that just receives prescriptions from the general practitioner and couriers the medicine to the patient.

P. Bleiker concluded that general practitioners have a positive attitude towards pharmacists, their insertion into the primary health care panel and an expansion of their role in relation to medicines, however there was small support for the thought of pharmacists undertaking screening and running therapeutic monitoring clinics [21]. In current study both groups in this study did not consider monitoring drug serum concentrations to be a pharmacist's role. It was good to observe that both pharmacists and GPs in high proportion (>90%) thought that CP should be a source of clinical medicines information to general practitioners such as adverse effects of medicines and selection of a medicine for a particular disease state. More than 80% of respondents were agreed on the role of CP to advice on the cost-effectiveness of medicines for disease states. Similar opinion was observed in other studies that pharmacist can do patient counselling and can better explain instruction for medication use to patient and care givers. Ultimately this attempt will create a better collaborative working environment between physicians and pharmacists that will lead to minimize the workload of physicians [9]. The clinical pharmacists act as a member of health care provision group based on their wide knowledge of medications. The clinical pharmacists now contribute to patient care in the hospitals by conducting ward rounds, monitor drug therapies and most importantly educate patient by the bedside. They also perform a major role in provision of ambulatory clinical setups by providing intensive patient education and consultation to the prescriber. In the developed countries, the improved interaction among general practitioner and pharmacist has resulted in more cost effective and safe drug therapy [22,23]. However, lack of standard practical guidelines and acute shortage of qualified staff are among the difficulties still faced by developing countries [24]. In addition the pharmacists and physician in the developing world are often perceived as opponents rather than the member of same health care providing team [25]. In this study, pharmacists (89%) and GPs (70.8%) considered it undoubtedly true that involvement of CP in medication management would enhance relationship between GPs and local pharmacists and (>90%) agreed that the service would improve patients' medicine-related health outcomes.

Conclusion

The current study concludes that the GPs considered it undoubtedly true that pharmacists are drug information experts but their anticipation of pharmacists as providers of quality clinically-focused pharmacy services was little. Both groups were ambivalent about the government policies and did not believe that the current policies give sufficient recognition to patient care approach. The government should develop doctors-pharmacists partnership programs, thereby enhancing the role of pharmacists in primary care.

References

1. American College of Clinical Pharmacy (2008) The Definition of Clinical Pharmacy. *Pharmacotherapy* 28: 816-817.
2. Audit Commission L (2001) A spoonful of sugar Medicines management in NHS hospitals. Holbrooks Printers, UK.

3. Hepler CD, Strand LM (1990) Opportunities and responsibilities in pharmaceutical care. *Am J Hosp Pharm* 47: 533-543.
4. Zillich AJ, Milchak JL, Carter BL, Doucette WR (2006) Utility of a questionnaire to measure physician-pharmacist collaborative relationships. *J Am Pharm Assoc* 46: 453-458.
5. Shakeel S, Iffat W, Yasmin R, Ali H (2013) Prospective Career Preferences of Imminent Pharmacist. *IOSR J Pharm* 3: 38-43.
6. Hirsch J, Gagnon J, Camp R (1990) Value of pharmacy services: perceptions of consumers, physicians, and third party prescription plan administrators. *American pharmacy* 3: 20-25.
7. Azhar S, Hassali M, Ibrahim M (2010) Doctors' perception and expectations of the role of the pharmacist in Punjab, Pakistan. *Tropical Journal of Pharmaceutical Research* 9: 205-222.
8. Bryant LJ, Coster G, Gamble GD, Mc Cormick RN(2009) General practitioners' and pharmacists' perceptions of the role of community pharmacists in delivering clinical services. *Research in Social and Administrative Pharmacy* 5: 347-362.
9. Rahim N, Usmani S (2012) Physicians' opinion about the role of pharmacist in the health care system of Pakistan. *International Journal* 3:257-260.
10. Bryant L, Coster G, McCormick R (2010) General practitioner perceptions of clinical medication reviews undertaken by community pharmacists. *J Primary Health Care* 2: 225-233.
11. Tahaineh LM, Wazaify M, Albsoul-Younes A, Khader Y, Zaidan M (2009) Perceptions, experiences, and expectations of physicians in hospital settings in Jordan regarding the role of the pharmacist. *Res Social Adm Pharm* 5: 63-70.
12. Morley A, Jepson MH, Edwards C, Stillman P (1983) What do doctors think of pharmacists treating minor ailments. *Pharm J* 231: 387-388.
13. Matowe L, Abahussain EA, Al-Saffar N, Bihzad SM, Al-Foraih A, et al. (2006) Physicians' perceptions and expectations of pharmacists' professional duties in government hospitals in Kuwait. *Med Princ Pract* 15: 185-189.
14. Ranelli PL, Biss J (2000) Physicians' perceptions of communication with and responsibilities of pharmacists. *J Am Pharm Assoc (Wash)* 40: 625-630.
15. Jones EJ, Mackinnon NJ, Tsuyuki RT (2005) Pharmaceutical care in community pharmacies: practice and research in Canada. *Ann Pharmacother* 39: 1527-1533.
16. Farris K, Kassam R, Cox C, Cave A (2000) Pharmaceutical care research and education project: patient outcomes. *Journal of the American Pharmaceutical Association (Washington, DC: 1996)* 41: 411-420.
17. Barker KN, Valentino JG (1972) On a political and legal foundation for clinical pharmacy practice. *J Am Pharm Assoc* 12: 202-206.
18. Leape LL, Cullen DJ, Clapp MD, Burdick E, Demonaco HJ, et al. (1999) Pharmacist participation on physician rounds and adverse drug events in the intensive care unit. *JAMA* 282: 267-270.
19. Beney J, Bero L, Bond CM (2000) Expanding the roles of outpatient pharmacists: effects on health services utilisation, costs, and patient outcomes. *Cochrane Database Syst Rev* 2000: CD000336.
20. Azhar S1, Hassali MA, Ibrahim MI, Ahmad M, Masood I, et al. (2009) The role of pharmacists in developing countries: the current scenario in Pakistan. *Hum Resour Health* 7: 54.
21. Bleiker P, Lewis A (1998) Extending the role of community pharmacists: the views of GPs. *International Journal of Pharmacy Practice* 6: 140-144.
22. Bond C, Raehl CL, Pitterle ME, Franke T (1999) Health care professional staffing, hospital characteristics, and hospital mortality rates. *Pharmacotherapy: The Journal of Human Pharmacology and Drug Therapy* 19: 130-138.
23. Fortner C (1990) Building cooperation with physicians: an interview with Charles Fortner. Interview by Joyce Leinberger Mitchell. *Am Pharm NS30*: 24-26.
24. Sing WS (2001) Pharmacy practice in Malaysia. *Malaysian Journal of Pharmacy* 44: 3-9.
25. Ma CS, Holuby RS, Bucci LL (2010) Physician and pharmacist collaboration: the University of Hawaii at Hilo College of Pharmacy--JABSOM experience. *Hawaii Med J* 69: 42-44.