

Community pharmacy practice in Pakistan

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ABSTRACT

Objectives: This study was planned to determine the extent to which the role of a pharmacist is established in community pharmacies in Pakistan and to determine the need of qualified and experienced pharmacists in provision of healthcare at these medical stores or so called community pharmacies.

Materials and Methods: A structured questionnaire was distributed to a random sample of 175 attendants at various medical stores located in different areas of Karachi with a response rate of 90.28%. Questionnaire consisted of 24 closed ended questions whose consistency and reliability were determined by Cronbach’s alpha. Statistical analysis were done using SPSS (v.16.0)

Results: The result shows that the average age of pharmacy attendant lies between 21 and 30 years. Only 9.49% of attendants have professional pharmacy education. It was noted that only 22.6% check prescriber signature before dispensing prescription, which is quite a low as compared with standard practice. Interestingly 57.6% attendants think that presence of qualified pharmacy at medical stores does not make any difference in the efficacy and the business of medical stores.

Conclusion: This study concludes that the current status of community pharmacy practice is below par. There is a need to involve more pharmacists at community level and develop awareness programs to counter patients’ routine drug issues and reducing the burden of disease from society.

Key words: Community pharmacy, pharmacist, healthcare, Pakistan

INTRODUCTION

The conventional role of pharmacist is to manufacture and supply medicinal products. Recently, however, there is a significant change in the pharmacy profession in terms of professional services delivery due to increase in demand of pharmacists.^[1] Complexities due to increase in range of medicines and poor compliance have shifted the focus of pharmacist toward patient-centered approach. This situation has made pharmacy discipline to be recognized as an equally important profession in the multidisciplinary team for the provision of health care. Since the

improvements in health outcomes depends on the workforce levels and quality, accomplishment of desirable results are difficult to achieve without a competent pharmacy workforce.^[2-4]

The need for the increase in horizon of the pharmacy profession had become inevitable for the past 2 decades. Various unconventional techniques were introduced in this time like medication therapy management (MTM), which provides additional scope for the pharmacy professionals. The pharmacy profession is still lagging behind in developing countries as compared with developed countries in a way that the pharmacy professionals have never been considered as a part of health care team neither by the community nor by the health care providers.^[5]

In low socio-economic countries like Pakistan, community pharmacies may be of great value in terms of providing medicinal services. However,

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the standard of these services are criticized and are yet to be answered.^[6] Moreover, very little literature is available regarding the standard of community pharmacy practice in developing countries.^[7]

Various pharmacy organizations and established institutions have already devised a plan for a good community practice including the use of safe and cost effective medicines but only little emphasis has been given in this regard in developing countries, which is evident from the fact that only few researches have been carried out in this discipline. This signifies the need to shift the focus toward optimum use of medicines.^[8]

Community pharmacy is an important aspect of the pharmacy profession as it is easily accessible for the society. The major responsibilities of the pharmacist are to maintain all ethical requirements regarding the dispensing of medicines. The activities also involve counseling of patients regarding the disease and the medicines. They also remain in contact with the physician and work as a health care team to facilitate the patient at best. However, the involvement of community pharmacists in such activities is not well known in Pakistan. This paper tries to explore the education, experience and main activities undertaken by pharmacists at local medical stores in Karachi – the metropolitan city of Pakistan. The study also determines the potential of these functional pharmacies or medical stores to play role in contributing to health care provision to local public.

MATERIALS AND METHODS

Study design, setting, and study population

A cross sectional survey based on representative sample of 175 attendants working in different locally situated medical stores in Karachi was conducted from April to September 2010. They were given informed consent form (ICF) before administration of structured questionnaire.

Data collection and evaluation

A structured questionnaire containing 24 closed ended questions with 3-4 levels was developed. The questionnaires were drawn in both English and Urdu language. The internal consistency and reliability of the questionnaire were determined by Cronbach's alpha and Spearman correlation coefficient. The alpha value of 0.942 and *P* value of 0.970 revealed that the questionnaire is both consistent and reliable. Different variables were evaluated such as education,

experience, dispensing routine of the attendants at medical stores or functional pharmacies. Their knowledge about commonly dispensed drugs, influence of different factors on prescribing practice of the general practitioners in that area and the willingness to have a qualified pharmacist at their medical store were also evaluated.^[9]

Statistical analysis

All the analyses were carried out using SPSS version 16.0 (statistical package for social sciences) for windows.

RESULTS

The questionnaire were distributed to 175 participants and the response rate was 90.28% (*n* = 158). A total of 96 (60.7%) participants responded in English, whereas 62 (39.2%) responded in Urdu.

Among respondents, 75 (47.4%) were the owners of pharmacy and 83 (52.5%) were employees. The age distribution, qualification, and experience of the respondents are summarized in Table 1. Their practice for drug dispensing and distribution, prescriber's practice of prescribing different medicines and the influence of medical information officers' visits on prescribing practice, the patient's knowledge about the

Table 1: Characteristics of study participants

Characteristics	N	%
Age (years)		
15-20	18	11.39
21-30	69	43.67
31-40	41	25.94
41-50	20	12.65
51-60	10	6.32
Qualification		
Lower secondary	14	8.86
Secondary	22	13.92
Higher secondary	51	32.27
BA	09	5.69
BSc	14	8.86
BCom	3	1.89
BPharm	15	9.49
Dispensing course	25	15.82
No response	05	3.16
Experience (years)		
≤1	08	5.06
2-5	70	44.30
6-10	41	25.94
11-20	16	10.12
21-30	08	5.06
31-40	05	3.16
No response	10	6.32

medicines, which they buy from these medical store, and other variables are presented as percent responses to different levels in Table 2. While perception of pharmacists against different practices of community pharmacy is presented in Table 3.

Interesting results were obtained when respondents were asked about having pharmacist in their pharmacies. 57.6% responded that it will not make any difference in the overall practice in their pharmacies [Figure 1]. The study participants also revealed that antibiotics (95.9%) and multivitamins (94.55%) were among the most common drugs dispensed at community pharmacies in Pakistan [Figure 2].

DISCUSSION

Pharmacy is an important discipline that carries the responsibilities of providing rational cost effective medicines to patients. The profession of pharmacy is well established across the globe especially in the developed countries. However, still some variations exist

in the practices of the different countries, despite of the guidelines given by World Health Organization (WHO) regarding the role of pharmacist in clinical settings.^[10]

This paper has tried to explore practices in community pharmacies in Karachi. The results have revealed some important points regarding the standard of practice in the most populated city of Pakistan. The most striking point was among all the pharmacy attendants; only 15 (9.49%) were pharmacist. This again is totally ignoring the guidelines provided by WHO that a legally qualified licensed pharmacist must be present at a operational pharmacy.^[10]

This study observed the responses of pharmacy attendants for various activities and it was found that 86.7% respondents agreed that the handwriting of prescribers does not make any legibility problem to them. However, 81% of these respondents were unable to understand the prescription orders written by doctors other than their area. This figure brought into light an interesting fact that the dispensing

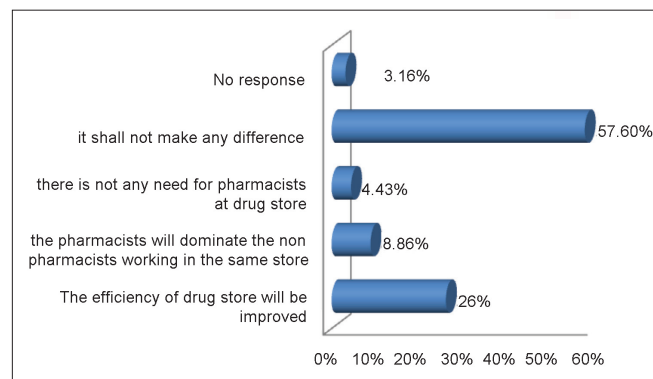


Figure 1: Percent response of the respondents to have a pharmacist at their community pharmacies

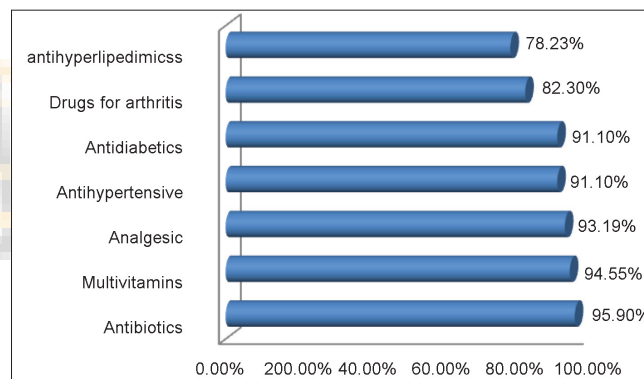


Figure 2: Most commonly dispensed drugs at community pharmacies

Table 2: Percent responses to each level of different activities

Questions	No. of respondents	No response	Yes		Often		Very often		No	
			n	%	n	%	n	%	n	%
Check name and age of patient on prescription	142	16	26	18.3	46	32	†	†	70	49
Check prescriber's sign on the prescription order	137	21	31	22.6	44	32.1	†	†	62	45.2
People come to tell about any adverse drug event	140	18	11	7.8	49	35	†	†	80	57.1
Prescribers write the reason for medication on prescription order	145	13	13	8.9	60	41.3	†	†	72	49.6
Prescribers' handwriting is easy to understand	158	00	137	86.7	8	5.06	8	5.06	5	3.16
They dispense drugs without prescription	158	00	150	94.9	8	5.06	00	00	00	00
They face problems of sound alike/look alike drugs	150	8	73	48.6	39	26	†	†	38	25.3
They dispense drugs without prescription	158	00	62	39.2	60	37.9	†	†	36	22.7
They can dispense drugs by generic name	150	8	47	31.3	28	18.6	52	34.6	23	15.3
Prescribers prescribe medicines according to the locality of practice	148	10	101	68.2	39	26.3	†	†	8	5.4
Patients know which drug they are using and for which purpose	155	3	33	21.2	47	30.3	†	†	75	48.3
Visits of medical information officers affect prescribing practice	148	10	106	71.6	23	15.5	†	†	10	6.7
They use computers at their medical stores	153	5	36	23.5	8	5.2	3	1.96	106	69.2
They dispense alternate drugs	150	8	26	17.3	54	36	31	20.6	39	26

Table 3: Perception of pharmacist against different practices in community pharmacy

Perception	N	% response
What do the dispensers do when there is no signature of prescriber on the prescription		
I return back the prescription	114	72.15
I dispense the medicines in any way	5	3.16
It does not make any difference	21	13.29
No response	18	11.39
What do the dispensers do when diagnosis is not written on the prescription?		
What do the dispensers do when there is no signature of prescriber on the prescription	3	1.9
I return back the prescription	126	79.7
I dispense the medicines in any way	24	15.19
It does not make any difference	5	3.16
No response	3	1.9
What do the dispensers do when writing of prescriber is illegible?		
I return back the prescription	82	51.9
I dispense the medicines in any way	71	44.93
No response	5	3.16
When the writing of prescriber is illegible then the dispenser is sure that he is dispensing correct medicines		
100% Correct	71	45
75% Correct	49	31
50% Correct	32	20.2
No response	6	3.8
They recognize drugs by		
Manufacturing company	71	45
Packing	63	39.8
Appearance (as pink tablet, red capsule, etc.)	19	12.02
Category (e.g., cardiovascular drug, analgesic)	00	00
No response	5	3.16
The purpose of computer at medical store*		
It serves as an accessory	3	9.5
It eases my work	11	31.64
It helps marinating inventory	13	36.11
It attracts the customers	2	6.32
It helps in patient education	00	00
Rationale behind dispensing an alternative drug to the prescribed one**		
More costly, so that I can earn more	00	00
Cheaper so that the patient can afford easily	73	65.76
More effective than the drug which was prescribed	8	7.2
Shortage of prescribed drug at my medical store	28	25.2
The alternate drug is near to expiry date	00	00
No response	2	1.8

*36 medical stores had computers, **111 dispensers dispense alternative drugs

person or pharmacist at community pharmacies or the medical stores in Karachi are familiar with the prescribers' handwriting of their areas. The finding is supported by a Danish study conducted in 2007 where the authors analyzed self-reports of community pharmacies and identified four

important causes of dispensing errors the major one being the poor, often unreadable, handwriting of prescribers.^[11]

Interestingly, 44.93% of the attendants dispense drugs even if they cannot understand prescriber's handwriting and 45% are sure that they dispense the correct drug. Similarly, only few respondents (11.39%) told that they return back the prescription in the case if it does not contain prescriber's signature. An alarming fact was that 95% sell drugs without prescriptions, which factually can lead to the misuse of drugs in our society. We were told by 49.6% respondents that doctors do not indicate the reason of medications on prescription and only 1.9% return back such prescriptions. They also told that they do not consider it important to be written on the prescription for dispensing from community pharmacy.

Expectedly, 57.6% pharmacy attendants think that the presence of a pharmacist will not make any difference in the community pharmacy operation and it can be better run by nonpharmacists. Nearly 8.86% think that if pharmacists would be hired in the medical stores then they will dominate the nonpharmacists. They were of opinion that presence of pharmacist does not make any difference to the sale of community pharmacy. Only 26% were of the idea that a pharmacist can improve the efficiency of work at community pharmacy because he has more knowledge about drugs and drug management and he can counsel patients at community pharmacy, which can also be source of escalation in the business of medical stores. In Pakistan, the overall structure of health care system is not well developed and is associated with confounding factors like economic crises, social insecurities, gender insensitivity, limited resources, and also due to restricted role of pharmacist in health care setting.^[12] The scope of community pharmacy can be evolutionized in collaboration with government and the society by employing more and more qualified pharmacist and create awareness programs to make people understand the role of pharmacist in community settings and how they can bring fresh waves of health and knowledge in the society.^[13,14]

Moreover, 57% attendants specified that their customers do not inform them about any adverse drug event occurred after the use of drug. Only 7.8% (all of them were pharmacists) of them informed that their customers tell them about any adverse drug event.

Since there are no guidelines available regarding the use of patient medical record and reports of adverse drug event, the information provided are of no use neither for pharmacist nor for the patients. This can be seen in view of Mcpherson and Fonatane who reported that Patient Centered Care (PCC) is achieved by maintaining and regular updating of patient health records, counselling sessions for disease and medicines, and adverse drug events.^[15-17]

Another important feature of this study revealed that visits of medical information officers of various pharmaceutical companies to doctors influence their prescribing practice. Nearly 71.6% respondents informed that these medical officers also visit pharmacy for their drug products. This explains how the respondents can dispense the drugs even if they do not understand the handwriting of physician. Rogers conducted a study to evaluate the factors affecting prescribing of doctors in a hospital setting and in general practice. He found out that general practitioners (GPs) often work alone or with just a few colleagues, and pharmaceutical representatives may represent the main opportunities to encounter 'change agents'.^[18]

The idea that presence of a qualified pharmacist can increase the efficiency of medical store was supported by 26% of the respondents, whereas 57.6% think that it does not make any difference to the efficiency and business of the medical store. Nearly 8.86% of the attendants had a fear that pharmacist will dominate over nonpharmacist in the community pharmacy and 4.43% think there is in fact no need of a pharmacist at medical stores and nonpharmacist pharmacy attendants can run these pharmacies and provide community services to the local public. Pharmacists have the ability to make decision at the dispensing counter and help in reduction of dispensing errors such as with soundalike and lookalike medicines.^[19-21] Nearly 48.6% of the study participants told that they face this problem and it not only increases the risk of dispensing errors but also the workload and counter checking of the prescriptions for dispensing accuracy.

The advancement of technology has changed the infrastructure of various professions including pharmacy. In an organized system pharmacist receive prescription through computer system, which immediately report any flaw in drug regimen through alarm system and hence can prevent potential adverse drug events.^[22-24] In this study, we found that

only 23.5% use computers with a belief that it eases their work and helps in maintenance of inventory. No respondent considered it as a source of patient education. Various softwares are available, which can be used for maintaining records and providing patient education. There is a need to train pharmacy attendants on these softwares so that they can play much needed role in providing maximum benefits to the patient. These type of services are more important in rural areas because of the scarcity of health professionals in those areas.^[25-31]

CONCLUSION

The important conclusion that can be drawn from this study is that the community pharmacy practice in Pakistan is well below par. This situation can be overcome by hiring more pharmacists for the supervision of community pharmacy. Other health-care staff must be qualified enough to counter day to day problems. Much emphasis must be given on pharmacist-physician collaboration for extracting maximum benefits from the therapy. Proper record must be maintained and encouragement should be given for the use of technology for the betterment of society.

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