Analyzing The Perception Level Of General Public & Other Health Care Professionals About The Pharmacist & Its Role In The Community Of Abbottabad & Rawalpindi, Pakistan.

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Abstract – The poor medication compliance and less therapeutic outcomes are just because of lack of awareness about Pharmacist in general public: who can provide the best possible information about the safe use of medication; & because of the lack of communication between Pharmacist & other health care professionals about patients. To study the awareness level about the Pharmacist in community of Abbottabad & Rawalpindi,   and investigating the reasons for the communication gaps between the Pharmacist, Other Health Care Professionals and Patients. The data was collected through two questionnaires: Questionnaire#1 for general population and Questionnaire#2 for medical professionals respectively. The participants (general population and medical professionals) were selected from Abbottabad and Rawalpindi, Pakistan & the data was analyzed by using SPSS.V. 19. The public was ready to accept the pharmacist as health care professional and was expecting more services rather than the mere filling of prescriptions. The health care professionals not just responded optimistically but urged to see the pharmacist to provide the clinical services. There is a need of this kind of research not only to investigate the real problem facing by the public in health care setup but to eradicate the reasons of communication gap between pharmacists, patients and other health care professionals.

Keywords – perception level, role of pharmacist, counselling, Abbottabad & Rawalpindi, communication gap, community pharmacist

1.   Introduction

Public health is an essential element for the wellbeing of any society. Barriers to good health include poor access to quality medical products, almost no access to the trained health care professionals, inadequate health workforce, and high cost of care and low standards of education of health care professionals. Pharmacists are one of the health care professionals, whose responsibility is to ensure that people derive maximum therapeutic outcome from drug treatment regimen. These forces those to keep abreast of developments in the field of pharmacy practice and pharmaceutical sciences, raising the professional standards and requirements as well as laws governing pharmacy and medicine and the advancement of knowledge and technology related to the use of drugs [1].

Satisfaction of general population is a vital key point to know how good the services are being provided [2]. Number of studies has been done all over the world in which the awareness of patients has been evaluated related to the profession and the role of pharmacist. A study revealed that there were the opposing viewpoints of patients and pharmacists on possible pharmacy services. Results had shown the negative views of participants about the role of pharmacy services [3]. In another study patients were dissatisfied with the role of pharmacist as an education provider and perceived pharmacist as a poor counsellor concerning asthma medications in the community pharmacy settings [4]. Researchers were of the view that the cause of negative remarks of participants related to the role of pharmacist was because of the lack of communication and awareness about the pharmacist. The major reason of that was the unavailability of pharmacist at medical stores and hospital setups which actually restricted the interaction of pharmacist with public.

Nowadays, the pharmacist was being found more focus on patient-oriented knowledge rather than just product-oriented skills [5, 6]. Advice of the pharmacist dealt with the provision of information to patients regarding disease, medications and life style modifications for the improvement of the therapeutic results [7]. But gradually the concerns of pharmacist were diverted from filling of prescription, compounding and dispensing of drugs towards patients counselling and patient related activities such as evaluation of patient medication records and monitoring of pharmacotherapeutic regimens, resolving the drug associated issues and patient education [8]. That change of mind was proved to be a positive sign for the health care system of Pakistan for the provision of better care to patients and delivering the pharmaceutical services in more effective way to the country [9]. Medicines are not the common commodity but have been a crucial and vital element of health care system. As there are too much brand available in a market and difference between

efficiency shown in clinical trials and their effectiveness in practice. This diversity of brands leads to problems: selection of drugs, dosages and incorrect drug administration, which finally causes noncompliance of patient to prescribe the treatment [7].

Primary health care taker usually practice independently, which results in a situation where they may not be informed of other cure received by that specific patient. This leads to poor outcomes of treatment merely because of the lack of coordination between pharmacist and other health care professionals. As ambulatory patients could receive treatment from various physicians, & mostly only visit to one pharmacy. So it designated the pharmacist at an ideal position to provide information to physician about the on-going medication of their patients. In order to obtain best therapeutic outcomes, pharmacist and physicians had to work more closely [10]. In those settings where the pharmacist had been involved in the management of drug therapy of chronic diseases, outcomes of therapy in patients were enhanced [11-15).

Pharmacist is actually a link between the patient and the medical practitioner as has an important role in creating awareness about drugs and counseling of patients as well about the safe, appropriate and cost effective use of the medicines [16]. Pharmacists should take part routinely in rounds as a pharmacotherapy expert and consultant, managing every patient drug regimen, taking patient histories, and giving patient education [17].The establishment of a powerful pharmaceutical system; where pharmacists were played an important role in providing instructions to patients on buying over the counter medication [18]. In the UK, there was also a step to strengthen the role of pharmacists and the development of a widest concept of Primary Health Care Panel [19, 20]. Prescribing rights were to be extended to competitively qualified pharmacists [21].

The role of the pharmacist had been extended to the cessation therapies/campaign of tobacco, promotion of local health advice systems to family physicians and other health care professionals, refill prescriptions, tips for nursing and residential hospices, screening and diagnosis [22]. The task of pharmacists was to help people to get the most out of medicines. Therefore, pharmacists must be concerned not only with availability of pharmaceutical services, but also with the results of pharmacy services [23]. The elements of pharmacy services are: Practice management, Medication-use policy development, Optimizing medication therapy, Drug product procurement and inventory management, Monitoring medication use, and counseling of patients, evaluating the effectiveness of the medication, and Research.

As this study was being carried out to know the awareness and perceptions of the general population about the pharmacist, about its role in community and communication gap between pharmacist & patients and perception of other health care professionals regarding the pharmacist in Pakistan.

2. Materials and Methods

A cross-sectional observational, questionnaire based study was conducted in Abbottabad and Rawalpindi, Pakistan. The duration of study was from September Sep-2015 to Jan-2016.

The method of data collection was the Non-Probability Convenience Sampling. An online automated sample calculator was used for the estimation of sample size [24]. The approximate minimum effective sample size for general population of interest was to be 384 participants with a confidence interval of 95% and 5% level of significance. The approximate minimum effective sample size for medical professionals was 80 participants with a confidence interval of 90% and 10% level of significance.

The data was collected using a pre-validated, two different self-prepared questionnaires i.e. one for general population termed as QUESTIONNAIRE#1 and the second one QUESTIONNAIRE#2 for medical professionals. Questionnaires were designed in English after extensive literature review [22, 25]. The content of the questionnaires was validated by the experts from the discipline of Faculty of Pharmaceutical Sciences, University of Lahore and COMSATS Pakistan. The simplicity of language and ease of the questionnaires was checked before the actual data collection for which questionnaires were distributed among 20 participants .As there was a room for some amendments so that data was not included in the final analysis.

The (QUESTIONNAIRE#1) was consisted of four parts and three parts of (QUESTIONNAIRE#2). The first part was common in both types' questionnaires: personal data. The second part: 3 questions regarding the awareness about Pharmacist (QUESTIONNAIRE#1) and (QUESTIONNAIRE#2) consisted of question regarding the communication between pharmacist and other health care professionals. The third part: questions regarding the roles of Pharmacist to be seen by the public (QUESTIONNAIRE#1); whereas (QUESTIONNAIRE#2) consisted of questions about the clinical responsibilities of Pharmacist. The fourth part of both QUESTIONNAIRES: consisted of suggestion regarding the improvement of health care system. Both questionnaires were contained open ended; close ended and multiple type questions as well.

Individuals below the age of 18 years and pharmacists were excluded. The SPSS v. 19.0 was used for the analysis. Descriptive statistics were used for analysis crosstab, percentage, mean, standard deviation and median was determined for both questionnaire data.

3. Results

450 questionnaires # 1 were circulated, out of which 380 questionnaires were filled by the participants giving the 84% response. The usable questionnaires were 350 of total filled questionnaire. The 120 questionnaires # 2 was distributed in four hospitals 100 were returned showing 83% response as mentioned in Figure 1. The response of survey was good because the questionnaires were short and simple.
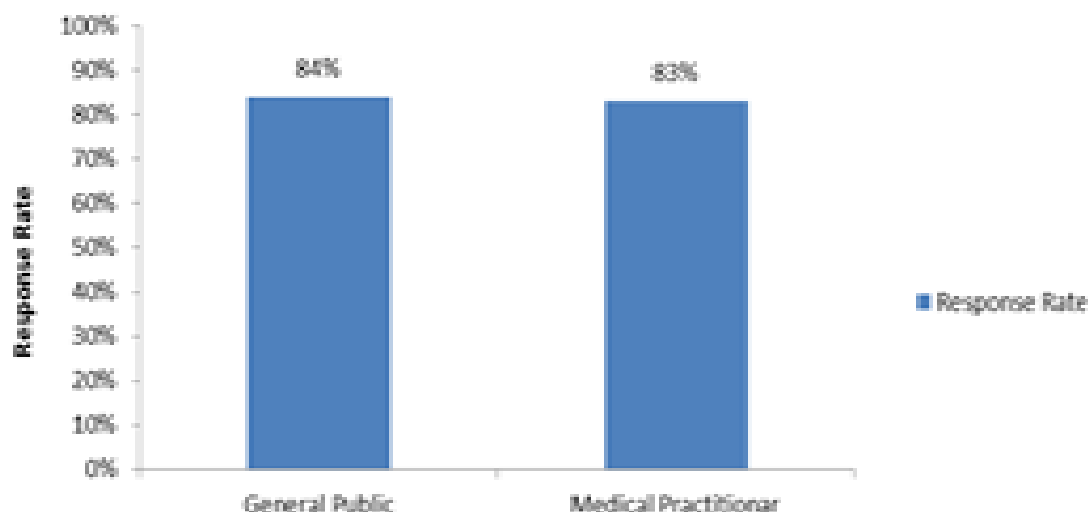
Figure 1. The response rate towards study was amazing i.e. 84% and 83% of general population and medical professionals responded respectively.

Table no. 1. Demographic data of general population

Gender			Age			Total
			Age<30	Age>30	Age>40	
Male	Profession	Students	159	1	0	160
		Other	34	36	13	84
	Total		193	37	13	244 (69.7%)
Female	Profession	Students	76	0	0	76
		Other	16	9	6	31
	Total		92	9	6	107 (30.6%)
Total	Profession	Students	235	1	0	236 (67.4%)
		Other	50	45	19	114 (32.5%)
	Total		285 (81.4%)	46 (13.1%)	19 (5.4%)	350
Demographic data of medical professionals						
Gender			Profession			Total
			Nurses	HO	Others	
Male	Age	age < 30 years	1	14	11	26
		age > 30 years	0	1	18	19
	Total		1	15	29	45 (45.0%)
Female	Age	age < 30 years	9	16	10	35
		age > 30 years	8	3	9	20
	Total		17	19	19	55 (55.0%)
Total	Age	age < 30 years	10	30	21	61 (61.0%)
		age > 30 years	8	4	27	39 (39.0%)
	Total		18 (18.0%)	34 (34.0%)	48(48.0%)	100

The result of personal information of general population and medical professional revealed that male participants were more i.e. 69.7% (n=244) than female i.e. 30.6% (n=107) while in medical professional male proportion was less than female i.e. 45.0% (n=45) and 55.0% (n=55) respectively. The age of maximum participants was less than 30 years in both types of data i.e.: questionnaires # 1: 81.4% (n=285) and questionnaires # 2, 61.0% (n=61) respectively shown in table 1.

The number of respondents : who "always" interacted with pharmacist at every visit were 7.4% (n=26, N=350), 44.6% (n=156, N=350) interacted "sometime", 16.9% (n=59, N=350) "rarely" interacted, "very rarely" were

17.4% (n=61, N=350) and those who "never" interacted with the pharmacist were 12.6% (n=44, N=350). Among the total respondents (N=350) : those who were "SA" or "A" that pharmacist are the part of the health care system were 56.8% (n=199), those who had no idea "neutral" were 25.1% (n=88) and 16.8% (n=59) were "D" or "SD" as in figure 2.The role observed by the participants were performing by pharmacist in hospital or pharmacy: among the N=350 respondents following results were obtained; out of them almost 15.4% (n=54) "filling of prescriptions", 13.1% (n=46) "counselling and education", 28.9% (n=101) "compounding and dispensing", 31.4% (n=110) "all of the above" and 9.1% (n=32) "none of the above" as shown in

table no 2. The overall status of awareness about pharmacist was satisfactory as 57.6% people were "SA" and "A" that pharmacist is a vital part of the health care system, 16.8% were "SD" and "D" and 25.1% have no idea about it.

Table 2. Awareness about pharmacist and its responsibilities

Have you ever interacted with a Pharmacist at the medical store, pharmacy or hospital?					
Frequency		Percentage	Mean	S.D	Median
Always	26	7.4			
Sometime	156	44.6			
Rarely	59	16.9			
Very rarely	61	17.4	2.87	1228	2
Never	44	12.6			
Missing	4	1.1			
Total (N)	350				

Code 1= always, 2= sometime, 3 = rarely, 4= very rarely, 5= never, 6= missing

Pharmacists are health care professionals just like physicians and nurses?					
Frequency		Percentage	Mean	S.D	Median
SA	52	14.9			
A	147	42.0			
N	88	25.1			
D	47	13.4	2.52	1.078	2
SD	12	3.4			
Missing	4	1.1			
Total (N)	350				

Code 1= Strongly agree (SA), 2= Agree (A), 3= Neutral (N), 4= Disagree (D), 5= Strongly disagree (SD),6= missing

Encircle the roles you have seen Pharmacist performing?					
Frequency		Percentage	Mean	S.D	Median
Filling of prescription	54	15.4			
Counseling & education	46	13.1			
Dispensing& compounding	101	28.9			
All of the above	110	31.4	3.12	1.265	3
None of the above	32	9.1			
Missing	7	2.0			
Total (N)	350				

Code 1= Filling of prescription, 2= Counseling & education, 3= Dispensing and compounding, 4= All of the above, 5= None of the above , 6=missing
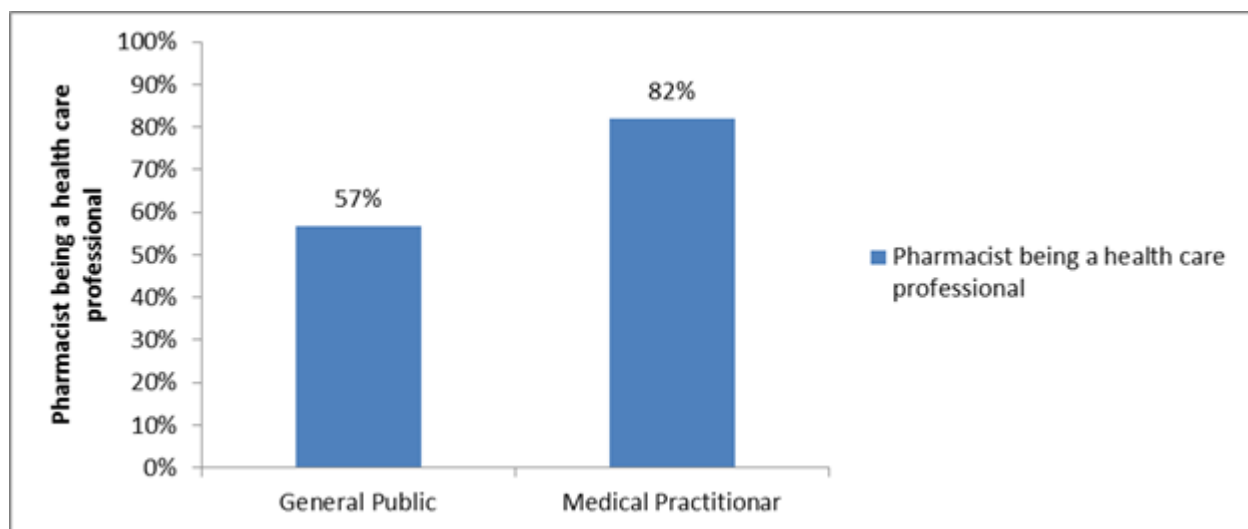

Figure 2. Pharmacist being a health care professional: 56.8% overall were "strongly agreed" participants or "agreed" and medical professional were 82% agreed.

Table 3. Communication between pharmacist & participants and their satisfaction

Questions	Yes	No	N/A	Median	Mean	S.D	Total
Have you ever been counseled by a Pharmacist in medical store, pharmacy or hospital?	174	176		2	1.5	0.501	350
Total	174 (49.7%)	176 (50.2%)					
Then do you feel satisfied?	143	33	176	1	0.6	0.656	350
Total	143 (82.1%)	33 (18.96%)	176(50.2%)				
Did the medicines prescribe by your Doctor are expensive?	267	83		1	1.24	0.426	350
Total	267 (76.3%)	83 (23.7%)					
Have you ever requested from the pharmacist for economical alternate brand instead of prescribed brand?	111	239		2	1.67	0.482	350
Total	111 (31.7%)	239 (68.3%)					
Then you satisfied from a change in prescription by Pharmacist?	95	21	239	0	0.4	0.611	350
Total	95 (85.6%)	21 (18.9%)	239 (68.3%)				
1=Yes, 2=No,							

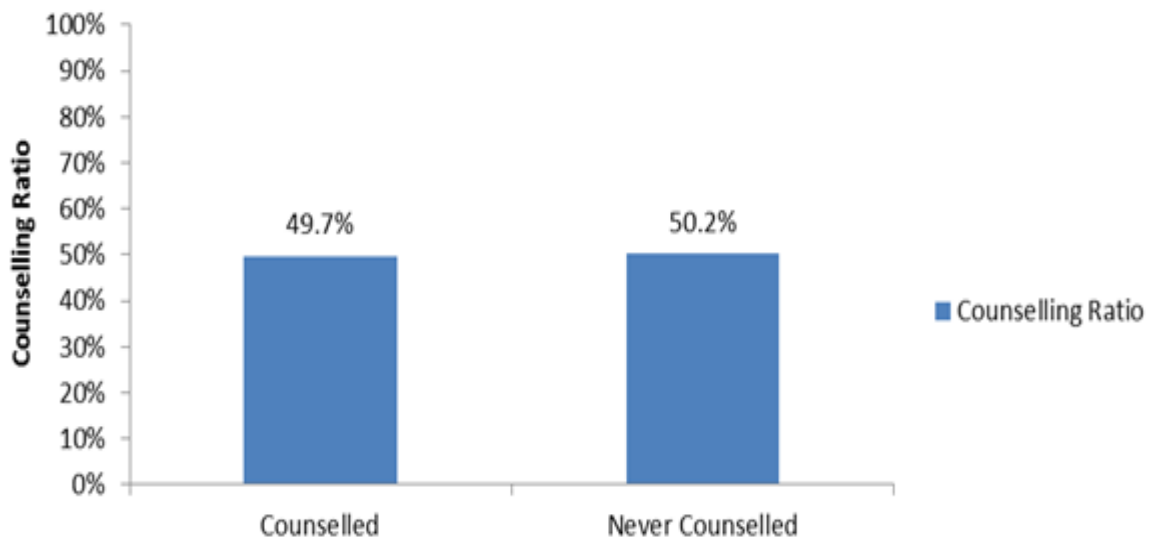|	Excellent	Good	Better	Poor	Missing	Median	Total
What kind of attitude of Pharmacist you observed?	33	207	73	24	13	2	350
Total	33 (9.4%)	207 (59.1%)	73(20.9%)	24 (6.9%)	13(3.7%)		
1=Excellent, 2=Good, 3= Better, 4= Poor							

Figure 3. The counselling ratio was 49.7% but 50.2% were never been counselled by the pharmacist.

Table 4. Communication between hospital pharmacist and other health care professionals

| Questions	Yes	No	N/A	Missing	Mean	S.D	Median	Total
Is there a pharmacy in the Clinic or hospital?	94	6			1.06	0.239	1	100
Total	94 (94.0%)	6(6.0%)						
Is pharmacist available in that pharmacy?	81	12	6	1	1.1	0.650	1	100
Total	81 (81.0%)	12(12.0%)	6(6.0%)					
Encircle the roles you have seen Pharmacist performing?								
Questions	Frequency		Percentage	Missing	Mean	S.D	Median	Total
N/A	18		18.0					
Filling of prescription,	8		8.0					
Counseling& education	16		16.0					100
Dispensing and compounding	19		19.0		2.59	1.602	3	
All of the above	35		35.0					
None of the above	2		2.0					
Missing	2		2.0					
Total	100		100.0					
If you have a pharmacy in your clinic, would you like any of these pharmacists also provide patient care services within a clinic with physicians?								
	SA	A	N	D	SD	N/A	Missing	Mean	S.D	Median	Total
Total	51	27	10(10.0%)	4	1	6	1	1.62	1.602	1	100
	51(51.0%)	27(27.0%)	10(10.0%)	4(4.0%)	1(1.0%)	6(6.0%)	1(1.0%)				
Would you like a pharmacy in your clinic or hospital maintain patient's medication history?								
	SA	A	N	D	SD	N/A	Missing	Mean	S.D	Median	Total
Total	52	42	4	2	-	-	1	1.46	0.82	1	100
	52(52.0%)	42(42.0%)	4 (4.0%)	2(2.0%)	-	-					
1= Strongly agree (SA), 2= Agree (A), 3= Neutral (N), 4= Disagree (D), 5= Strongly disagree (SD), S.D (standard deviation)								
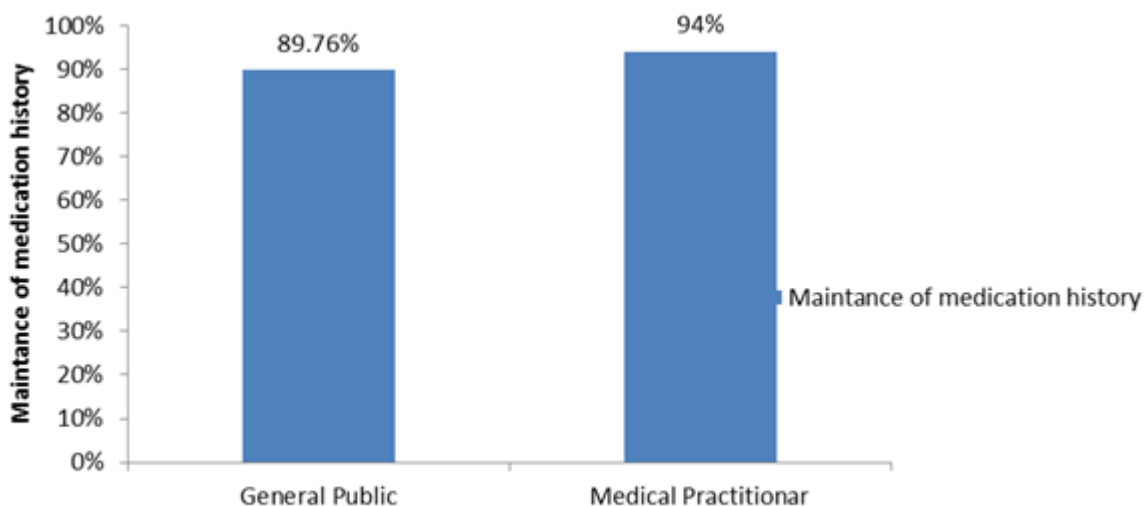
Figure 4. The result regarding the maintenance of medication history: 89.76% general public was "strongly agreed" or "agreed" and 94% practitioners were "strongly agreed" or "agreed".

Table 5. Views point of other health care professionals about the clinical role of pharmacist.

Do you think Pharmacist is health care professionals?											
	SA	A	N	D	SD	N/A	Missing	Mean	S.D	Median	Total
Total	50	32	7	6	2	0	2	1.86	1.18	1.5	100
	50(50.0%)	32(32.0%)	7 (7.0%)	6(6.0%)	2(2.0%)		2(2.0%)				
Do you agree to allow a Clinical Pharmacist to practice and Prescribe?											
	SA	A	N	D	SD	N/A	Missing	Mean	S.D	Median	Total
Total	24	32	11	18	13	0	2	2.7	1.45	2	100
	24(24.0%)	32(32.0%)	11(11.0%)	18(18.0%)	13(13.0%)	-	2(2.0%)				
Can the clinical pharmacist suggest lab test?											
	SA	A	N	D	SD	N/A	Missing	Mean	S.D	Median	Total
Total	13	32	22	25	6	0	2	2.85	1.23	3	100
	13(13.0%)	32(32.0%)	22(22.0%)	25(25.0%)	6 (6.0%)		2(2.0%)				
If you have Clinical Pharmacist in your Clinic, will you agree to refer your patient to him for Dosage adjustment, Counseling and allow him to work as Supplementary Prescriber?											
	SA	A	N	D	SD	N/A	Missing	Mean	S.D	Median	Total
Total	34	31	22	7	4	0	2	2.25	1.27	2	100
	34(34.0%)	31(31.0%)	22(22.0%)	7 (7.0%)	4 (4.0%)		2(2.0%)				
Do you think that this kind of research can help us to improve our health care system?											
	SA	A	N	D	SD	N/A	Missing	Mean	S.D	Median	Total
Total	33	51	8	5	3	0	0	1.94	0.94	2	100
	33(33.0%)	51(51.0%)	8(8.0%)	5 (5.0%)	3 (3.0%)						
1= Strongly agree (SA), 2= Agree (A), 3= Neutral (N), 4= Disagree (D), 5= Strongly disagree (SD), S.D (standard deviation)											

Table 6. Level of involvement of the pharmacist in each of the following.

Department	Highly Involved	Involved	Partially Involved	Not Involved	Don't Know	Mean	S.D	Median	Total
Medical unit	69 (69%)	15 (15%)	3 (3%)	2 (2%)	11 (11%)	1.71	1.313	1	
ENT	17 (17%)	48 (48%)	15 (15%)	14(14%)	6 (6%)	2.44	1.113	2	
CVS	70 (70%)	17 (17%)	5 (5%)	3 (3%)	5 (5%)	1.56	1.067	1	
Gyne	14 (14%)	32 (32%)	28 (28%)	18 (18%)	8 (8%)	2.74	1.151	3	
Surgery	18 (18%)	28 (28%)	21 (21%)	22 (22%)	11 (11%)	2.80	1.279	3	
Liver centre	50 (50%)	24 (24%)	8(8%)	11(11%)	7 (7%)	2.01	1.29	2	
Urology	61(61%)	19 (19%)	10 (10%)	5 (5%)	5 (5%)	1.74	1.143	1	100
Dentistry	11(11%)	26 (26%)	30 (30%)	20 (20%)	13 (13%)	2.98	1.197	3	
Oncology	64 (64%)	20 (20%)	4 (4%)	7 (7%)	5 (5%)	1.69	1.152	1	
E.R	31 (31%)	34 (34%)	10 (10%)	12 (12%)	13 (13%)	2.42	1.379	2	
Peads	62 (62%)	19 (19%)	7 (7%)	8 (8%)	4 (4%)	1.73	1.145	1	
Neurology	18 (18%)	30 (30%)	12 (12%)	8 (8%)	14 (14%)	2.88	1.358	3	
Highly involve = 1 Involve = 2 Partially involve = 3 Not involved = 4 Don't know = 5									

The median of the pharmacist and patient interaction at the pharmacy or hospital visit was (median=2) "sometime"; about the pharmacist position in the health care system was (median=2) "agreed" and about the professional responsibilities "dispensing and compounding" (median=3) as shown in table 2.

The communication between pharmacist and the participants was evaluated using descriptive statistical analysis approach and the central tendency, frequency and percentage.The counselling rate was 49.7% (n=174) who were counselled by pharmacist in which 82.1% (n=143) were satisfied and 18.96% (n=33) were not satisfied from the counselling and 50.2% (n=176) were never counselled by pharmacist as in figure 3. About the cost of prescribed medicine 76.3% (n=267) said that it was high and 23.7%

(n=83) were of the opinion that its not expensive. Out of 350 participants, only 31.7% (n=111) were asked for alternate brands out of whom 85.6% (n=95) were satisfied from the alternate brand and 68.3% (n=239) did not ask for an alternate brand. The attitude of the pharmacist observed by the participants was 9.4% (n=33) excellent, 59.1% (n=207) good, 20.9% (n=73) better, 6.9% (n=24) poor and 3.7% (n=13) did not comment about the attitude of pharmacist as shown in table 3.

Almost all of the Doctors and nurses were aware about the availability of the pharmacy facility in the Hospital or clinic i.e. 94% (n=94) out of total participants (N=100). Among 94, the 81 participants knew that the pharmacist was present in the pharmacy and 13 did not know. According to them, the kind of functions performing by

the pharmacist in pharmacy were; 8 out of 81 participants said "filling of prescription", 16 out of 81 said "counselling & education", 19 out of 81 "dispensing & compounding" while 35 out of 81 said "All of the above" and only 2 said "none of the following" and 2 did not answer.
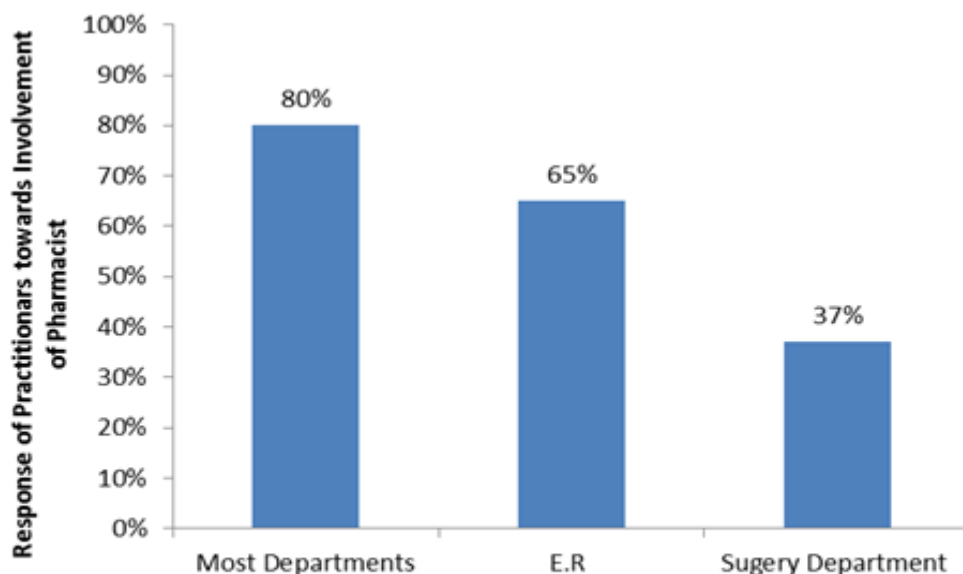

Figure 5. The response of practitioners about the involvement of pharmacist: almost 80% should highly involve for most of the departments, E.R 65% and quite low as 37% for surgery department of hospital.

Table 7. Suggestions from participants

Questions	Yes	No	Missing	Median	Mean	S.D	Total
Do you think Pharmacists contribution can make our health system better?	318	29		1	1.13	0.531	
Total	318 (90.9%)	29(8.3%)					350
Are you satisfied with your current pharmacy services?	149	199	2	2	1.6	0.597	
Total	149 (42.6%)	199(56.9%)	2(0.57%)				350
Would you like pharmacist in pharmacy maintain your medication history?	314	36		1	1.10	0.304	
Total	314(89.76%)	36(10.3%)					350
Do you think Pharmacist should be available at the medical stores?	313	37		1	1.11	0.308	
Total	313 (89.4%)	37(10.6%)					350
1= Yes, 2=No							
	Prescription evaluation &counseling	**Supervision**	**Both**	**None of above**	**N/A**	**Median**	**Total**
What kind of services you expect?	136	54	120	4	37	2	
Total	136 (43.5%)	54(17.3%)	120(38.3%)	120 (38.3%)	4 (1.3%)	37(10.6%)	350
1=Prescription evaluation &counseling, 2= supervision, 3= both, 4= none the above							

Most of the practitioners were not reluctant and were wanted pharmacist to be present in hospital or clinic participating in the patients care activities. The 52 % (n=52) were "strongly agreed", 33% (n=33) were "agreed", while 10% (n=10) were "neutral" and only 5% (n=5) were "disagreed or strongly disagreed". The most of the health care professionals demanded that the patient medication records were need to be maintained in the pharmacy i.e. 52% (n=52) strongly agreed and 42% (n=42) were "agreed" while only 2% (n=2) were "disagreed" and 4% (n=4) were "neutral" as shown in table 4.

The opinion of health care practitioners was taken about the clinical role of the pharmacist in the health care setup. Most the health care professionals were "strongly agreed" or "agreed" that pharmacist are health care professionals i.e. 82% (n=82) as in figure 2. The practitioner's point of view about the Clinical Pharmacist to practice and prescribe was: 24% (n=24) "strongly agreed", 32% (n=32) "agreed" while 18% (n=18) "disagreed" and 13% (n=13) "strongly disagreed".

Among the N=100, 13% (n=13) were "strongly agreed" and 32% (n=32) "agreed" that the clinical pharmacist can suggest the lab test while 25% (n=25) were "disagreed" and 6% (n=6) "strongly disagreed" and 22% (n=22) were "neutral" about that. The health care professionals 34% (n=34) were "strongly agreed" and 31% (n=31) were "agreed" that wanted to refer the patients to pharmacist for dosage adjustment, counseling and were allowed them to work as supplementary prescriber and only 11% (n=11) were "disagreed" or "strongly disagreed" as the results were shown in the table 5.

As table no.6 has shown that most of the respondents believed that the pharmacist should "highly involved", "involved" providing health services in all departments of health care setup. The results were 87% (n=87) in CVS, 84% (n=84) in Medical Unit, 65% (n=65) in ENT, 46% (n=46) in Gyne, 46% (n=46) in surgery, 80% (n=80) in Urology, 84% (n=84) in Oncology, 37% (n=37) in Dentistry, 65% (n=65) in E.R, 74% (n=74) in Liver Centre, 81% (n=81) in Peads, and 48% (n=48) in Neurology "partially involved" as in figure 5.

Among the total 350 participants, 89.4% (n=313) were suggesting that the pharmacists should be available at medical store or pharmacy and 10.6% (n=37) said that the pharmacist availability was not mandatory. The kinds of services were expected from community pharmacist: 43.5% (n=136) were expecting prescription evaluation & counselling, 17.3% (n=54) supervision while 38.3% (n=120) were expecting both supervision and counselling & prescription evaluation and only 1.3% (n=4) did not expect any kind of the service and 3.7% (n=13) did not show response. The satisfaction from current pharmacy setup: 42.6% (n=149) were satisfied and 56.9% (n=199) were not satisfied at all. The response about the pharmacist's contribution in the health care system regarding the betterment of health care system and patients therapy was 90.9 % (n=318) positive and 8.3% (n=29) showed negative response. Most of the participants were agreed towards maintaining of their medication history at

pharmacy i.e. 89.76% (n=314) were agreed to maintain medication record as in figure 4 and 10.3% (n=36) did not want to maintain medication record as results shown in table 7.

4. Discussion

Pakistan is a developing country in the field of community and clinical pharmacy. In our society, most of the medical stores and pharmacies were opened by the non-pharmacist businessmen just to earn money. But now as the number of pharmacists is increasing day by day and due to job saturation in an industrial zone and poor growth rate, the attention of pharmacist is changed from the community pharmacy towards hospital [26]. Vacancies were announced for pharmacists recently in different hospitals literally shown that the need of pharmacist was increasing day by day.

This study was conducted for the purpose to know the awareness of the general public about the pharmacist, the role of pharmacist and perception of the other health care professionals about the pharmacist. As mentioned in figure 1, the response rate towards study was amazing i.e. 84% and 83% of general population and medical professionals responded respectively. During survey, the participation of male participants was i.e. 69.7% (n=244) quite high than female 30.6% (n=107) in general population data & the major portion of participants was of students i.e. 67.4% (n=236) while in data of medical professionals male 45.0% (n=45) participants were less than of females i.e.55.0% (n=55). The age of maximum participants was less than 30 years in both general population and medical professionals i.e. 81.4% (n=285) and 61.0% (n=61) respectively as shown in table no 1.

The availability of pharmacist was assessed by evaluating the interaction of respondents with pharmacist at every visit to pharmacy or hospital those who "always" interacted were 7.4% (n=26), those who interacted "sometime "or "rarely" were 61.5% (n=215) with (median=2). The response regarding the pharmacist, the role used to perform, & the pharmacist being over all as a pharmacy professional those who were strongly agreed "SA" or agreed "A" were 57.6%" (as in figure 2) among the total respondents (N=350) with (median=2) and 25.1% had no idea about it. While in comparison to the study was conducted in Karachi august 2013, it i.e. (84%) was a very good response (9). The response of the medical professionals: 82% were "strongly agreed" or "agreed" that pharmacist is a health care professional (as in figure 2). The duties were observed by the participants to be performed by the pharmacist in a hospital or pharmacy behind the counter were discrete mean of all type of functions that were seen i.e. 15.4% (n=54) "filling of prescriptions", 13.1% (n=46) "counselling and education", 28.9% (n=101) "compounding and dispensing" & 31.4% (n=110) "all of the above" with (median=3). The counselling should be done frequently as it will increase the worth and trust of people on pharmacist in society as the 38% counselling rate [27].

The counseling is the main role of pharmacist to

perform in community pharmacy or hospital. The response rate about the provision of the useful information to the public by the pharmacist was 49.7% (n=174) positive and 50.2% (n=176) negative (as in figure 3). The 96% (n ¼= 291) patients were agreed to spend time with pharmacist for counselling and education (28) whereas as per the survey was conducted in New Zealand results about the provision of education regarding patient safety was 84.4% [28] & the counselling was 85% in favour of pharmacist according to the survey conducted in Karachi [29]. Perception about the cost of prescribed medicines was that 76.3% (n=267) were expensive. There is a need of pharmacoeconomic role of pharmacist to provide the alternate therapeutically equivalent brand to the public according to the economical condition of patients instead of the prescribed brand and to decrease the budget of charity hospital. It was observed in this study that only 31.7% (n=111) participants asked about the alternate brands from pharmacist: out of whom 85.6% (n=95) were completely satisfied from the change was to be done by the pharmacist; result of one survey revealed that provision of alternative option of brand influencing the selection of pharmacy i.e. 41.5% of respondent [9]. Overall attitude of the pharmacist with customer i.e. 59.1% (n=207) was actually good, as shown in table no 3.

The interaction of other health care professionals with the pharmacist and its clinical role was evaluated through 16 parameters. Among the total N=100 participants, 94% (n=94) knew about the availability of the pharmacy facility in the Hospital or clinic setup and 86% participants also knew about the presence of the pharmacist .Most of the participants i.e. 85% were "strongly agreed", or "agreed "that the pharmacist should participate in the Patient Care Activities. According to the literature, the pharmacist role had been expanded from mere filling of prescriptions to Tobacco Cessation Programs, Emergency, Oral Contraception, Hypertension, Diabetes, Dyslipidemia, Risk of Suicides etc [22]. The result of a study that 86% GPs were agreed that pharmacist should educate patients on the safe use of medicines, risks and benefits [29] while it was proved that only 62.5% GPs were agreed about the education of patients by the pharmacists [30].The view of health care professionals towards the maintaince of the patient medication records by the pharmacist was that almost 94%(as per figure 4) were "strongly agreed" or "agreed" as shown in table no 4. It had been very important for the practitioners to select the medication therapy for patients. As in previous literature 93% of health care professionals were using Electronic Patient Record Systems on daily basis [31]. And there was not a significance difference relevant to the response rate of the general public regarding the maintenance of medication history which was 89.6% as shown in table no 7.

The view point of the health care professionals about the clinical role of the pharmacist in the health care setup about the practice and prescribing role of Clinical Pharmacist : 56% physicians were "strongly agreed" or "agreed" that a pharmacist could prescribe for general medical conditions as it would definitely going to decrease the workload of physicians. The result of this survey was good regarding that specific parameter in comparison with

the survey conducted by the University of Auckland New Zealand as just 46% general practitioners were agreed about giving the prescribing authority to pharmacist after being diagnosis done by practitioner while the rest of the practitioners opposed it [29]. Less than fifty percent i.e. only 45% practitioners were thought that pharmacist could order the lab test for patient as it had been very important for the dose adjustment of critical patients but most of the physician were opposed it. Almost 75% of the health care professionals were "strongly agreed" or "agreed" on referring patients to him for dosage adjustment, counseling and allowed him to work as a supplementary prescriber as shown in the table no 5 whereas in a survey was being conducted in Netherlands finding the opinions about pharmacists' professional duties: the result showed that more than 80% of the sampled pharmacists and physicians were agreed that pharmacists should participate in deciding Patient's Pharmcotherapeutic Plan.

The perspective of health care professionals about the level of involvement of pharmacist in Primary Health Care setup in most critical departments was positive: as almost more than 80% response rate of practitioners who urged to see pharmacist being worked in the Cardiology, Medical Unit, Urology, Oncology & Peads Department while 74% response for liver centre and 65% for E.R and for Surgery was 46% (as per figure 5)

As the public was found to be ready to accept the pharmacist i.e. 89.4% (n=313) were demanding to see the pharmacist to be present at medical store or pharmacy. A similar survey was being conducted in Saudia Arabia the result was that 71.4% participants were agreed about the pharmacist availability and half of them were expected from the pharmacist more than the dispensing of medicine [27] and similarly in this survey the result was more likely to that as 43.5% participants wanted prescription evaluation & counselling, and 38.3% expected both supervision and counselling & prescription evaluation. Less than 50% participants were not satisfied from the traditional pharmacy services. The result about the pharmacist contribution towards the growth & betterment of the health care system was 90.9 % which was in the favour of the pharmacist as shown in table 7.

5.   Conclusion

The study was conducted to demonstrate the worth of pharmacist among the general public and medical professionals. As it was observed that the public was actually ready to accept the pharmacist and were expecting more professional services and hence the physicians believed that pharmacist should provide the clinical services.

The study showed the excellent supportive window from the extended role of community pharmacy which produced new job opportunities. Community pharmacists must interact with patient, providing valuable information about their medication and on time offering solution for drug related issues. They should perform a pro-active role in community and primary care setups in order to become a valuable and necessary part of health care system. However, there is the need of the day regarding the improvement in the clinical skills and competency of the

pharmacist. To provide healthy results, pharmacist should make themselves the first approachable professional to public and provide counselling related to the safe use of medication & its adverse effects which ultimately will increase the awareness and worth of pharmacist in society. Finally, community pharmacists should have to put all their efforts, knowledge and competencies in the development of exceptional pharmaceutical health care setup. In Pakistan there is a need of such kind of researches to be conducted to investigate the problems faced by the people in acquiring the health facilities, reasons for poor medication adherence, irrational practices and communication gaps between health professionals and patients.

Authors' declaration

Authors declare that there was no ethical issue of the society and there is no interest of conflict

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