

## **An Evaluation On The Current Trends In Pharmaceutical Care Provided By The Pharmacist.**

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### **ABSTRACT**

The Profession of Pharmacy is practiced from just compounding and dispensing drugs to provide patient care. The pharmaceutical industry focused primarily on compounding in the previous century. The careful administration of medication with the goal of attaining a specific result that enhances patient quality of life is known as pharmaceutical care. It was also found that pharmacists are involved in other healthcare activities along with healthcare professionals to enhance the quality of life. These additional services include Adverse Drug Reporting, monitoring patient's progress and identify drug related problems. It was a Cross sectional prospective observational study conducted with the pharmacists working in Government hospitals, Primary Health Centers, Private hospitals and as well as Community Pharmacies. The study was conducted in five districts, by covering rural, urban and semi urban areas. All the pharmacists participated were personally assessed by conducting a direct interaction offline and online mode. This was performed to study the attitude of the pharmacists towards their professional practice to provide pharmaceutical care. It was done by using a validated questionnaire as the tool. The procedure was explained to all the pharmacists and their informed consent was obtained. All of them performed the assessments and fully supported the study with their personal views and opinions.

**Key words:** Current Trends, Pharmaceutical Care, Pharmacy, Pharmacist,

### **INTRODUCTION**

The profession lately had to develop a new role because dispensing alone is not sufficient to meet everyone's demands. Pharmaceutical care ideas need to be part of the pharmacist's work description in order to change the role of the modern pharmacist from one of a drug seller in a business to one of a health care expert. Helping people and society get the most out of medications and other health care goods and services is the aim of a pharmacy profession.<sup>1</sup>

Clinical pharmacists are licensed healthcare professionals with extensive education and training, focusing on comprehensive drug management, cost-effectiveness, side effect identification, monitoring, and dosage. They play a critical role in patient care for acute care and ambulatory patients.<sup>2</sup> Pharmacists make up the third largest group of healthcare professionals in the world, and throughout the past ten years, the pharmacy profession in India has grown significantly. Today's pharmacists have a larger role than only administering medication; they also provide pharmaceutical care by maximizing the benefits and safety of medications. The amount of work-related activities has

increased, which may have a direct or indirect effect on the quality of work produced and the job satisfaction of pharmacists.<sup>3</sup>

"Professionalization" is the phrase used to describe the transition from Merton defined professional socialization as "the process of transforming people from students to professionals who deeply comprehend the ideals, attitudes, and actions of the profession." It is an active process that has to be supported throughout the professional or student's development. The process of becoming a professional is a complex one that is unique to each individual and is influenced by the environment and culture in which they grow<sup>4</sup>. Pharmacists are now required to promote public health and patient safety, with developing countries updating laws to make them safer and more patient-centered. In India, pharmacists are still limited to retail pharmacies, but their role is crucial for accurate drug information and patient compliance.<sup>5</sup>

### **Pharmaceutical Care**

The pharmacy profession has evolved from compounding to dispensing, clinical pharmacy services, and pharmaceutical care. To be recognized by society, it must demonstrate its value to patients and improve health outcomes<sup>6</sup>. "Pharmaceutical care is the responsible provision of medication therapy for the purpose of obtaining clear objectives that improve a patient's quality of life." When approving this definition in 1998, the International Pharmaceutical Federation (FIP) included a crucial component: "achieving concrete results that improve or sustain a patient's overall well-being"<sup>7</sup>.

Historically, teaching in the pharmacy field was instructional, subject-specific, and knowledge-based. However, there have been a lot of substantial developments in training and education recently. This illustrates how pharmacy has changed from being a profession focused on drugs to one focused on patients. Course development is overseen by specific higher education institutions, but in the majority of nations it is recommended by and under the watchful eye of governmental or professional organizations<sup>8</sup>.

Pharmaceutical care is becoming a priority in pharmacy practice, but dispensing pharmacists are unaware of this shift. Public expectations for higher-caliber treatments are discouraging, exacerbated by a lack of knowledge. Closing these gaps in knowledge is a crucial step in boosting the self-assurance of working pharmacists. In India, community pharmacists make up about 55% of all pharmacists. By providing adequate exposure to pharmaceutical care through ongoing pharmaceutical education and training, the goal will undoubtedly be accomplished<sup>9</sup>.

Pharmacy Programme may face distinct difficulties and have different educational goals in developing nations than they do in developed ones. The obstacles and difficulties that the existing educational system faces must be investigated in order to enhance pharmacy education in emerging nations. Despite the fact that there are initiatives to describe pharmaceutical education and the difficulties that various nations' educational systems face<sup>10</sup>.

### **METHODOLOGY**

It was a cross sectional prospective observational study design. The questionnaire was prepared and tested for their quality, language and content validity. All the questionnaires are approved by the Institutional Ethics Committee. The study was conducted in districts, by covering rural, urban areas. The pharmacists were included from all the areas like, Government hospitals, PHCs, Private hospitals and as well as Community Pharmacies.

### **RESULTS AND DISCUSSIONS**

#### **1. Demographic Characteristics.**

##### **1.1 Gender.**

801 registered pharmacists were participated in the study. Out of 801 pharmacists, 587 (73.28%) were females and 214 (26.72%) were males (Table-1)

### 1.2 Distribution of Respondents.

The pharmacists were selected from different regions of the State of Kerala on a random basis (table-1)

### 1.3 The Qualification of the Pharmacist.

All pharmacists selected were registered with Kerala State Pharmacy Council. Among the qualification Pharm D qualified pharmacist were excluded as they are more educated and trained in Pharmaceutical Care in their curriculum. Qualifications matters a lot when it comes into the practice of the profession. The qualification of the pharmacists varied from Diploma in Pharmacy (D. Pharm) to Master of Pharmacy (M Pharm) as shown in the table below (table-1).

### 1.4 Area of work.

Among the pharmacists most of them (445) were working in community pharmacies while 298 were working in Private Hospital Pharmacy, 58 were working in Public Health Centres such as Government Medical College Hospital and Government Primary Health Centre (table-1)

### 1.5 Geographical Region.

The current trends in providing pharmaceutical care by the pharmacist may vary according to the geographic region where the pharmacy is located. It was observed that 434 (54.18%) pharmacies were established in rural areas and 367 (45.82%) in urban areas of various districts of Kerala (Table-1).

**Table 1: Demographic Characteristics.**

<b>Gender</b>	<b>Frequency</b>	<b>Percentage</b>
Female	587	73.28
Male	214	26.72
Total	801	100
<b>Distribution of Respondents District Wise.</b>		
Alappuzha	158	19.73
Kottayam	164	20.47
Kozhikode	131	16.35
Thrissur	172	21.47
Trivandrum	176	21.98
Total	801	100
<b>Qualification</b>		
D. Pharm	565	70.54
B. Pharm	205	25.59
M. Pharm	31	3.87
Total	801	100
<b>Distribution of Patients according to Study Area.</b>		
Community Pharmacy	445	55.56
Private Hospital	298	37.20
Primary Health Centre	58	7.24
Total	801	100
<b>Geographical Region</b>		
Rural	434	54.18
Urban	367	45.82
Total	801	100

## 2. Current Trends in Pharmaceutical Care.

The questions used for the assessment is tabulated in Table.2. The responses of the pharmacists were collected and tabulated based on various parameters which included Gender, Age group, Qualifications, Working area, Experience, Working hours and Number of pharmacists working in a pharmacy and Geographic area.

**Table-2. Questionnaire to Assess Current Trends in Pharmaceutical Care**

SI No	Questions	Question Code
1	Do you collect medication/ medical data from your patients?	CURTR1
2	Do you offer the advice and counsel during drug dispensing?	DURTR2
3	Do you able to identify problems/errors in prescription order?	CURTR3
4	Have you had any reported cases of ADR's?	CURTR4
5	As a pharmacist do you think changing of prescribed medication is part of pharmaceutical care?	CURTR5
6	Do you Monitor patients' progress after dispensing the medicine?	CURTR6
7	Attempt to identify any drug-related problem patients may be experiencing.	CURTR7
8	Does pharmaceutical care is a valuable mode of practice and which serve to improve patient health outcomes.	CURTR8
9	Is there any list in your pharmacy containing names and addresses of reliable physicians with illustrious background in disease diagnosis and rational drugprescription to refer the patients to?	CURTR9
10	If patients in my community need counselling, it will motivate me to do so.	CURTR10

### 2.1 Current Trends in Pharmaceutical Care Based on Gender.

Current trends in Pharmaceutical care based on Gender was assessed by using questions CURTR 1 to CURTR 10 of the participating Pharmacists were tabulated in Table -2.1.

Out of 801 participants 214 males and 587 females were given their responses. The responses for all ten questions was yes except CURTR 1, 4, 5, 6, and 9. All the responses indicated a positive attitude in favour of good pharmaceutical care. The responses for CURTR 1, 4 and 8 were statistically significant. These showed that all strongly believed that the pharmaceutical care is not a medication counselling service alone. The pharmacist is not playing secondary role in the pharmaceutical care process. The pharmacist is willing to provide more pharmaceutical are but the basic working conditions are not found adequate.

**Table-2.1. Current Trends in Pharmaceutical Care Based on Gender**

Question Code	Responses	Male		Female		p-value
		N	%	N	%	
CURTR1	Yes	42	20	83	14	0
	No	172	80	504	86	
CURTR2	Yes	189	88	548	93	0
	No	25	12	39	7	
CURTR3	Yes	181	85	542	92	0.1
	No	33	15	45	8	
CURTR4	Yes	4	2	5	1	0
	No	210	98	582	99	
CURTR5	Yes	9	4	22	4	0.1
	No	205	96	565	96	

CURTR6	Yes	23	11	57	10	0.2
	No	191	89	530	90	
CURTR7	Yes	184	86	550	94	0.2
	No	30	14	37	6	
CURTR8	Yes	188	88	576	98	0
	No	26	12	11	2	
CURTR9	Yes	45	21	65	11	0.1
	No	169	79	522	89	
CURTR10	Yes	190	89	569	97	0.2
	No	24	11	18	3	
	Total	214		587		

## 2.2 Current Trends in Pharmaceutical Care based on Age Group.

Pharmaceutical care based on age group was assessed using questions CURTR 1 to CURTR 10 of the 801 participating Pharmacists. The results were tabulated in Table -2.2.

All participants expressed positive responses on all questions except CURTR 1,4,5,6 and 9 where the answers were negative. But all the positive as well as negative responses favored good pharmaceutical care. Similar response was observed in case of participants belonging to other age groups also. The responses for pharmaceutical care offered feedback to optimize drug use (CURTR 4) and the pharmacist willingness to provide more pharmaceutical care but the basic working conditions found not adequate (CURTR 8) were statistically significant in all the age group.

**Table-2.2. Current Trends in Pharmaceutical Care based on Age Group**

Question Code	Responses	20 to 25		26 to 30		31 to 35		36 to 45		45 to 50		p-value
		N	%	N	%	N	%	N	%	N	%	
CURTR1	Yes	23	18	34	10	20	20	13	9	0	0	0.205
	No	108	82	292	90	78	80	138	91	95	100	
CURTR2	Yes	129	98	321	98	98	100	151	100	93	98	0.1
	No	2	2	5	2	0	0	0	0	2	2	
CURTR3	Yes	131	100	301	92	78	80	149	99	95	100	0.341
	No	0	0	25	8	20	20	2	1	0	0	
CURTR4	Yes	18	14	27	8	3	3	6	4	3	3	0.004
	No	113	86	299	92	95	97	145	96	92	97	
CURTR5	Yes	8	6	20	6	1	1	27	18	15	16	0.238
	No	123	94	306	94	97	99	124	82	80	84	
CURTR6	Yes	0	0	7	2	1	1	1	1	11	12	0.017
	No	131	100	319	98	97	99	150	99	84	88	
CURTR7	Yes	131	100	321	98	98	100	149	99	95	100	0.241
	No	0	0	5	2	0	0	2	1	0	0	
CURTR8	Yes	113	86	288	88	90	92	142	94	91	96	0.011
	No	18	14	38	12	8	8	9	6	4	4	
CURTR9	Yes	3	2	4	1	0	0	3	2	0	0	0.205
	No	128	98	322	99	98	100	148	98	95	100	
CURTR10	Yes	129	98	321	98	98	100	151	100	93	98	0.102
	No	2	2	5	2	0	0	0	0	2	2	
Total		131		326		98		151		95		

### 2.3 Current Trends in Pharmaceutical Care based on Qualification.

Pharmaceutical care based on qualifications was assessed using questions CURTR 1 to CURTR 10 of the 801 participating Pharmacists. The results were tabulated in Table -2.3.

All participants expressed positive responses on all questions except CURTR 1,4,5,6 and 9 where the answers were negative irrespective of their qualifications. But all the positive as well as negative responses favored good pharmaceutical care. The responses for pharmaceutical care offers a feedback to optimize drug use (CURTR 4) and the pharmacist is willing to provide more pharmaceutical are but the basic working conditions are not found adequate (CURTR 8) were statistically significant in all the age group. But these differences were not statistically significant.

**Table-2.3. Current Trends in Pharmaceutical Care based on Qualification**

Question Code	Responses	D. Pharm		B. Pharm		M. Pharm		p-value
		N	%	N	%	N	%	
CURTR1	Yes	48	8	20	10	3	10	0.9
	No	517	92	185	90	28	90	
CURTR2	Yes	557	99	201	98	31	100	0.1
	No	8	1	4	2	0	0	
CURTR3	Yes	559	99	203	99	30	97	0.3
	No	6	1	2	1	1	3	
CURTR4	Yes	5	1	1	0	0	0	0
	No	560	99	204	100	31	100	
CURTR5	Yes	25	4	14	7	2	6	0.3
	No	540	96	191	93	29	94	
CURTR6	Yes	9	2	33	16	0	0	0.3
	No	556	98	172	84	31	100	
CURTR7	Yes	559	99	197	96	31	100	0.7
	No	6	1	8	4	0	0	
CURTR8	Yes	516	91	181	88	28	90	0.2
	No	49	9	24	12	3	10	
CURTR9	Yes	8	1	6	3	0	0	0.1
	No	557	99	199	97	31	100	
CURTR10	Yes	559	99	199	97	30	97	0.1
	No	6	1	6	3	1	3	
Total		565		205		31		98

### 2.4 Current Trends in Pharmaceutical Care based on Area of Work.

Pharmaceutical care based on area of work was assessed by using questions CURTR 1 to CURTR 10 of the participating Pharmacists were tabulated in Table -2.4 .

Out of 801 participants, all of them were given their responses. The responses for all ten care based questions was yes except CURTR 1,4,5,6 and 9. All the responses indicated a positive attitude in favour of good pharmaceutical care. The responses for CURTR 2 and 8 were statistically significant. These showed that all strongly believed that the pharmacist is willing to provide more pharmaceutical are but the basic working conditions are not found adequate (CURTR 8).

**Table-2.4. Current Trends in Pharmaceutical Care based on Area of Work**

Question Code	Responses	Community Pharmacy		Hospital Pharmacy		PHC		p-value
		N	%	N	%	N	%	
CURTR1	Yes	204	46	95	32	10	17	0.151
	No	241	54	203	68	48	83	
CURTR2	Yes	404	91	275	92	52	90	0.034
	No	41	9	23	8	6	10	

CURTR3	Yes	438	98	295	99	56	97	0.252
	No	7	2	3	1	2	3	
CURTR4	Yes	4	1	3	1	8	14	0.081
	No	441	99	295	99	50	86	
CURTR5	Yes	18	4	20	7	0	0	0.224
	No	427	96	278	93	58	100	
CURTR6	Yes	5	1	95	32	5	9	0.081
	No	440	99	203	68	53	91	
CURTR7	Yes	418	94	265	89	48	83	0.281
	No	27	6	33	11	10	17	
CURTR8	Yes	406	91	275	92	52	90	0.044
	No	39	9	23	8	6	10	
CURTR9	Yes	47	11	73	24	7	12	0.352
	No	398	89	225	76	51	88	
CURTR10	Yes	380	85	270	91	48	83	0.251
	No	65	15	28	9	10	17	
	Total	445		298		58		

### 2.5 Current Trends in Pharmaceutical Care based on Experience.

Pharmaceutical care was assessed based on experiences by using questions CURTR 1 to CURTR 10 for the 801 participated Pharmacists were tabulated in Table -2.5.

Among 310 participants who were working for less than one year, all expressed positive responses on all questions except CURTR 1,4,5,6 and 9 where the answers were negative. But all the positive as well as negative responses favored good pharmaceutical care. Similar response was observed in case of 270 participants who were having working experience for two to five years and 221 pharmacists who were working more than five years. Statistical significance was observed in the responses for CURTR 2, 4, 8 and 9.

**Table-2.5. Current Trends in Pharmaceutical Care based on Experience**

Question Code	Response	Less than one year		Two to five years		More than five years		p-value
		N	%	N	%	N	%	
CURTR1	Yes	54	17	41	15	32	14	0.5
	No	256	83	229	85	189	86	
CURTR2	Yes	268	86	247	91	210	95	0
	No	42	14	23	9	11	5	
CURTR3	Yes	233	75	228	84	156	71	0.3
	No	77	25	42	16	65	29	
CURTR4	Yes	9	3	20	7	32	14	0
	No	301	97	250	93	189	86	
CURTR5	Yes	6	2	5	2	4	2	0.2
	No	304	98	265	98	217	98	
CURTR6	Yes	38	12	23	9	11	5	0.3
	No	272	88	247	91	210	95	
CURTR7	Yes	284	92	258	96	219	99	0.3
	No	26	8	12	4	2	1	
CURTR8	Yes	262	85	240	89	210	95	0
	No	48	15	30	11	11	5	
CURTR9	Yes	23	7	9	3	9	4	0.1
	No	287	93	261	97	212	96	
CURTR10	Yes	296	95	266	99	219	99	0.6
	No	14	5	4	1	2	1	
	Total	310		270		221		

### 2.6 Current Trends in Pharmaceutical Care based on Working hours.

Pharmaceutical care was assessed by on questions CURTR 1 to CURTR 10 based on Working hours of the 801 participating Pharmacists were tabulated in Table -2.6.

Among 327 participants who were working for less than 8 hours, all expressed positive responses on all questions except CURTR 1, 4, 5, 6 and 9 where the answers were negative. But all the positive as well as negative responses favored good pharmaceutical care. Similar response was observed in case of 474 participants who were working for more than 8 hours. Statistical significance was observed in the responses for CURTR 1, 2 and 7.

**Table-2.6. Current trends in Pharmaceutical Care based on Working hours.**

Question Code	Responses	Less than 8 hours		More than 8 hours		p-value
		N	%	N	%	
CURTR1	Yes	109	33	114	24	0.02
	No	218	67	360	76	
CURTR2	Yes	275	84	374	79	0.009
	No	52	16	100	21	
CURTR3	Yes	237	72	367	77	0.418
	No	90	28	107	23	
CURTR4	Yes	92	28	140	30	0.34
	No	235	72	334	70	
CURTR5	Yes	93	28	122	26	0.787
	No	234	72	352	74	
CURTR6	Yes	57	17	57	12	0.186
	No	270	83	417	88	
CURTR7	Yes	222	68	304	64	0.012
	No	105	32	170	36	
CURTR8	Yes	276	84	387	82	0.477
	No	51	16	87	18	
CURTR9	Yes	77	24	100	21	0.912
	No	250	76	374	79	
CURTR10	Yes	314	96	459	97	0.863
	No	13	4	15	3	
	Total	327		474		270

### 2.7 Current trends in Pharmaceutical Care based on Number of Pharmacist.

Current trends of the pharmacists on questions CURTR1 to CURTR 10 was evaluated based on number of pharmacists among 801 participating pharmacists were tabulated in Table -2.7.

Among 424 participants who were working in pharmacies alone or along with another pharmacist, all expressed Good responses on all questions except CURTR 1,4,5,6 and 9 where the responses were negative. Similar response was observed in case of 227 participants who were working in group of three to Five pharmacists and 150 pharmacists who work in group of more than five pharmacists. Statistically significant difference was observed between the categories for the response to CURTR 1, 3, 6 and 8.

**Table-2.7. Current trends in Pharmaceutical Care based on Number of Pharmacist**

Question Code	Responses	One to Two Pharmacists		Three to Five Pharmacists		More than Five Pharmacists		p-value
		N	%	N	%	N	%	
CURTR1	Yes	103	24	63	28	57	38	0.006
	No	321	76	164	72	93	62	

CURTR 2	Yes	335	79	189	83	125	83	0.305
	No	89	21	38	17	25	17	
CURTR 3	Yes	329	78	174	77	101	67	0.038
	No	95	22	53	23	49	33	
CURTR 4	Yes	114	27	72	32	46	31	0.38
	No	310	73	155	68	104	69	
CURTR 5	Yes	114	27	57	25	44	29	0.663
	No	310	73	170	75	106	71	
CURTR 6	Yes	37	9	47	21	30	20	0.001
	No	387	91	180	79	120	80	
CURTR 7	Yes	276	65	150	66	100	67	0.93
	No	148	35	77	34	50	33	
CURTR 8	Yes	343	81	199	88	121	81	0.044
	No	81	19	28	12	29	19	
CURTR 9	Yes	86	20	56	25	35	23	0.577
	No	338	80	171	75	115	77	
CURTR10	Yes	406	96	220	97	147	98	0.403
	No	18	4	7	3	3	2	
		424		227		150		

## 2.8 Current Trends in Pharmaceutical Care Based on Geographic Region.

Pharmaceutical care was assessed by on questions CURTR 1 to CURTR 10 based on geographic region of the pharmacy for 801 participating Pharmacists and were tabulated in Table -3.8.

Among 434 participants who were working in the rural areas, all expressed positive responses on all questions except CURTR 1, 4, 5, 6 and 9 where the answers were negative. But all the positive as well as negative responses favored good pharmaceutical care. Similar response was observed in case of 367 participants who were working in pharmacies established in urban areas. Statistical significance was observed in the responses for CURTR 1, 2 and 7.

**Table-2.8.Current Trends in Pharmaceutical Care Based on Geographic Region**

Question Code	Responses	Rural		Urban		p-value
		N	%	N	%	
CURTR1	Yes	94	22	109	30	0.02
	No	340	78	258	70	
CURTR2	Yes	364	84	305	83	0.01
	No	70	16	62	17	
CURTR3	Yes	347	80	277	75	0.42
	No	87	20	90	25	
CURTR4	Yes	130	30	92	25	0.34
	No	304	70	275	75	
CURTR5	Yes	122	28	103	28	0.79
	No	312	72	264	72	
CURTR6	Yes	57	13	77	21	0.19
	No	377	87	290	79	
CURTR7	Yes	294	68	222	60	0.01
	No	140	32	145	40	
CURTR8	Yes	347	80	296	81	0.48
	No	87	20	71	19	
CURTR9	Yes	80	18	97	26	0.91
	No	354	82	270	74	
CURTR10	Yes	409	94	344	94	0.86

	No	15	3	23	6	
	Total	434		367		

## CONCLUSION

The role of Pharmacists in current trends in Pharmaceutical Care was assessed. Most of them said that the public health activities belong to health centers. But, all suggested that Pharmacists should not be involved in public health activities. There was negative perception for all questions asked. The pharmacists believed that people will not accept their participation of the pharmacists in public health activities. Majority of them expressed that it was not important for pharmacists to practice health promotion activities. Many said that they are not interested in public health activities as it is the work of doctors and nurses. Since they were busy with the dispensing of drugs as per the prescriptions and providing information on drug related issues, most of them said they find no time to educate patients on health issues. Being drug expert, most of the pharmacists believed that they do not have enough knowledge to advice patients on health promotion and disease prevention. Almost all agreed that the syllabus followed were not sufficient to provide counselling to the patient as well as public on health promotion

## REFERENCES

1. Toklu HZ, Hussain A. The changing face of pharmacy practice and the need for a new model of pharmacy education. *J Young Pharm.* 2013 Jun;5(2):38–40.
2. Jacobi J. Clinical Pharmacists: Practitioners Who Are Essential Members Of Your Clinical Care Team. *Rev Médica Clínica Las Condes.* 2016 Sep;27(5):571–7.
3. Ahmad A, Atiqueb S, Balkrishnan R, Patel I. Pharmacy profession in India: Current scenario and Recommendations. *Indian J Pharm Educ Res.* 2014 Aug 1;48(3):12–5.
4. Mylrea MF, Gupta TS, Glass BD. Professionalization in Pharmacy Education as a Matter of Identity. *Am J Pharm Educ.* 2015 Nov 25;79(9):142.
5. T Rubica, Jeyamani VP, Rajan AK, Sahayamary FM, Magesh M. Knowledge, Attitude and Perception of Community Pharmacists about the Professional Standards and Responsibilities Entrusted by Pharmacy Practice Regulation, 2015- A Cross Sectional Survey in the State of Tamil Nadu. *Acta Scientific Pharmaceutical Sciences.* 2018 Jun; 2(7): 55-59.
6. Sakthong P. Comparative analysis of pharmaceutical care and traditional dispensing role of pharmacy. *Thai J Pharm Sci.* 2007; 31: 100-104
7. Tumkur A, Muragundi PM, Naik A, Shetty R. Pharmaceutical Care: Need of the Hour in India. *J Young Pharm.* 2012 Oct; 4(4):282–6.
8. El-Awady ESE, Moss S, Mottram D, O'Donnell J. Student Perspectives on Pharmacy Curriculum and Instruction in Egyptian Schools. *Am J Pharm Educ.* 2006 Sep;70(1):09.
9. Wheeler JS, Chisholm-Burns M. The Benefit of Continuing Professional Development for Continuing Pharmacy Education. *Am J Pharm Educ.* 2018 Apr;82(3):6461.
10. Aljadhey H, Asiri Y, Albogami Y, Spratto G, Alshehri M. Pharmacy education in Saudi Arabia: A vision of the future. *Saudi Pharm J.* 2017 Jan;25(1):88–92.