



EVALUATE THE ATTITUDE OF PHARMACISTS TOWARD PHARMACEUTICAL CARE IN JORDAN

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ABSTRACT

Objective: Reveal knowledge and approaches to pharmaceutical services among pharmacists in Jordan. **Method:** Online cross-sectional study was conducted among pharmacists during January, 2022. A total of 110 pharmacists involved in this study. All pharmacists who met the inclusion criteria were selected using a random sampling method. The pretested structured self-administered questionnaire was used to collect data. The collected data had been analyzed using (SPSS) version 21.0. **Results:** The study included 110 pharmacists with a response rate of 91%. The majority (55%) of the respondents were males. 65% of those were surveyed worked in hospitals and 35% in community pharmacies. Furthermore, 91% of those surveyed were well aware of drug supply problems. 21% of respondents were clinical pharmacists. The majority of respondents strongly disagree that pharmacists have adequate experiences to provide pharmaceutical services. **Conclusion:** Most pharmacists are familiar with medications and pharmaceutical care; however, only half of the pharmacists had positive attitude toward pharmaceutical care. Ministry of health Jordan Pharmacists association are required to promote pharmaceutical services as part of a continuing education program for all pharmacists working in pharmacies either in hospitals or in the community to make the maximum benefit of their experience.

1. INTRODUCTION

Pharmacists have to meet all of the patient's medical needs and to help patients achieve their medical goal.^[1]

Pharmaceutical care (PC) is a philosophy of acting with quality for professionals working in the pharmaceutical network; thus helping to develop safe drug use. It helps prevent irrational drug use by promoting education of the patient.^[2] PC is defined as fulfilling the responsibility of treatment to achieve specific medical results that give the patients good quality of life.^[2] In this sense, also it define as the responsibility of the pharmacist to achieve all the pharmacological needs of the patient and help him achieve the good medical treatment through coordination with other medical teams.^[3]

Furthermore, different studies have shown that the use of PC in the hospital and in the community improves patient medical results, shortens hospital stays, improves medication use and reduces pharmaceutical abuse of our country and reduce polypharmacy.^[4-10]

A WHO advisory group extended the benefits of pharmaceutical services to the general public rather than to the individual patient, and mentioned pharmacists as high responsibility of health care professional toward disease prevention and health promotion and should

strive to provide drug delivery services in a way that is compatible with the health of their country.^[11]

In addition, the panel recommended that the professional roles and responsibilities of pharmacy couple with national pharmaceutical standards.^[12] These recommendations confirm that the status and quality of drug administration services in different countries of the world are changing dramatically.^[13,14]

Measuring attitude, knowledge, experiences of the pharmacist toward medication is responsible to PC to the patients.^[3,15] However, a number of obstacles have hampered the general application of PC practice, including lack of time to PC, insecurity of pharmacists, clinical knowledge and negative attitude of pharmacists.^[16-18] Therefore, this study aims to evaluate the knowledge and attitudes towards pharmaceutical services in Jordan

2. MATERIAL AND METHODS

Online cross-sectional study conducted among pharmacists. The respondents were randomly selected during January, 2022. A total of 110 pharmacists were involved in this study. All pharmacists who met the inclusion criteria were selected using a random sampling method. The pretested structured self-administered

questionnaire was used to collect data. The collected data was analyzed using (SPSS) version 21.0.

It was structured into five sections: the first section focused in demographic information. The second section consisted of 13 questions to assess the knowledge of pharmacists about pharmaceutical care; questions were designed using a Likert-type scale (strongly agree, agree, strongly disagree, disagree, neutral).

The third section encompassed 8 statements to assess the attitude of pharmacists toward pharmaceutical care. Likert-type scale (strongly agree, agree, strongly disagree, disagree, neutral). Fourth section focused in barriers of pharmaceutical serves with 5 statements. The collected data were analyzed using statistical package for social sciences (SPSS) version 21.0.

3. RESULTS

3.1. Sociodemographic Characteristics of the Respondents

In this study, 110 pharmacists contributed with a response rate of 91%. The majority (88.3%) of respondents were males. In terms of education program, one quarter of them (25%) have completed clinical pharmacy training. Regarding to specialties, 21% of respondents were clinical pharmacists.

Respondents had a mean service length (standard deviation) of 5.30 ± 5.70 years. Regarding the operating environment, 65% of the subjects worked in hospitals and 35% in state pharmacies. Further results are shown in (Table 1).

Table 1: Sociodemographic characteristics of the respondents.

1- Age	%
≥30	55
<30	45
2-Gender	
Male	42
Female	48
3- Married	
YES	65
NO	35
4-specialists	
Clinical pharmacists	20
Supply pharmacist	25
Non	55
5-Year of experience (in years)	
<5	42
6-10	35
≥10	23
6- Area you work with:	
Community pharmacy	35
Hospital pharmacy	65

2. Respondents Knowledge of Pharmaceutical Care

The majority of respondents (50%) strongly agree that a pharmaceutical services is described as a patient-centered manner to supply treatment service. More than third of them agree that the reason of pharmaceutical services is to achieve good patient outcome results. More than half of pharmacists strongly agree that pharmaceutical services increase the pharmacist's responsibility for a patient's medication information. Large number of them agrees that the main role of pharmaceutical services in the medication treatment is the identification, protection, and resolution of drug therapy problems. Further results are shown on table 2.

Table 2: Knowledge of pharmacists about pharmaceutical care.

	Knowledge Assessment Question	Strongly disagree	Disagree	Neutral	Agree	Strongly agree	I don't no
1	Pharmaceutical services is described as a patient-centered manner to supply treatment service	0	0	25	20	50	5
2	The role of pharmaceutical services is optimize the results of treatment	13	10	5	32	30	10
3	Pharmaceutical services increase a pharmacist's responsibility for a patient's medication information	6	10	5	52	22	5
4	The reason of Pharmaceutical services is to achieve good patient outcome results	3	10	20	32	31	5
6	The aim of Pharmaceutical services in the health care system is providing patient's medication-related needs	3	2	5	60	30	2

7	Main role of Pharmaceutical services in the medication treatment is the identification, protection, and resolution of drug therapy problems	11	13	10	52	10	5
8	PC practical conducts an assessing of the patient, medication problems, and plan leading to drug problem considering.	4	2	33	31	20	10
9	PC practitioners create a plan that considering the positive results of pharmaceutical for any patient.	8	7	10	40	32	5
10	Selling of drugs to patients only.	28	32	21	10	7	2
11	Providing education to prescribed patients.	5	5	13	33	32	12
12	Providing education to patients only.	38	30	11	5	6	11
13	The role of pharmacists is only dispense and educate patient visited the doctors.	15	20	30	5	8	22

3. Respondent's attitude toward pharmaceutical care

In this evaluation, the majority of the respondents strongly agree that all pharmacists have to give pharmaceutical services to all patients (Table 3).

Furthermore, 53% of them strongly agree believe that pharmacists should have the knowledge and skills necessary for providing pharmaceutical services, while pharmaceutical services treatment requires a good place 65%, respectively.

Minority of the respondents strongly disagrees that giving pharmaceutical services will increase relation between the patients and health care professional. Almost three-quarters of the study participants strongly

disagreed with the statement that PC is not the responsibility of the pharmacist.

In general, more than half (60%) of pharmacists have a positive attitude towards pharmaceutical services. More than third of the respondents disagree that pharmacists have adequate experiences to provide pharmaceutical services. The majority of respondents reported that pharmaceutical care counseling will negatively affect the communication between the pharmacists and doctors. The majority of respondents agree that pharmaceutical care counseling need a special place. The majority of respondents strongly disagree that pharmacists have adequate experiences to provide pharmaceutical services. Further results are shown in table 3.

Table 3: Attitude of pharmacists' toward pharmaceutical care.

NO	Attitude Assessment Question	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
1	Pharmacists should give pharmaceutical care services	2	2	22	42	32
2	Pharmacists have adequate experiences to provide pharmaceutical services	35	36	21	3	4
3	Pharmaceutical care counseling need a special place	22	32	15	15	16
4	Pharmaceutical care counseling will negatively affect the communication between the pharmacists and the doctors	3	2	10	40	45
5	Pharmaceutical services will increase relation between the patients and health care professional.	8	8	9	33	42
6	Pharmaceutical care is not the pharmacists' job.	77	28	0	0	0
7	Pharmaceutical care is the	3	3	8	41	45

	pharmacists' job, but it cannot be practiced easily					
8	Providing pharmaceutical care is responsibility of hospital pharmacy only.	32	49	19	0	0

4. Obstacles of providing pharmaceutical services

Regarding the barriers to pharmaceutical services, 61% of them believe that bad relationship between pharmacists and other members of the health system is

an obstacle, and 45% believe that this is due to the doubts of the pharmacists. 75% agree that the lack of qualified and support staff is an obstacle to drug addiction treatment. Another result are shown below.

Table 4: Obstacles of providing pharmaceutical services.

NO	Attitude Assessment Question	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
1	Poor relationship of community pharmacists with other health providers	0	0	9	61	30
2	Education program is not enough to provide this services	0	0	10	35	55
3	Low knowledge and doubts in pharmacists themselves	0	1	10	45	44
4	Less qualified pharmacists	35	25	22	9	9
5	Lake of time and specific training	0	0	10	60	30

4. DISCUSSION

This study is very important to assess the pharmaceutical services in Jordan. In general, the pharmacists who participated in this study had well knowledge about with PC. These results are consistent with studies in Nigeria, Qatar, and Saudi Arabia which showed the pharmacists have a good knowledge toward pharmaceutical services.^[15,18,19] However, these results are in contrast to another study that occurred in Brazil.^[16] The later study showed that the pharmacy depend on computers to provide counseling not in their pharmacological knowledge.

This study showed a relationship between practice and knowledge toward pharmaceutical services (value = 0.008). This is consistent with the study that occurred in Qatar.^[18] which assess the pharmacy knowledge and obstacles toward PC.

This study showed that about (51.1%) of respondents had a positive attitude regard PC. These results contrast to another studies that occur in New Zealand and Turkey which shows 60% and 90% of their respondents have positive attitude.^[17,20]

Furthermore, more than three quarters of respondents (80%) agreed that pharmacy opinion should be taken into account when setting PC principles. This is consistence with another study that conducted in Saudi Arabia.^[15]

This study showed that pharmacist training programs and their attitude are interrelated. This may be due the intense of education programs which introduced by their hospitals, for example, clinical pharmacy program in the Jordanian royal medical services.

Lack of time, lack relation and training with other medical teams were considered as the major obstacle of pharmaceutical care by more than half of them in different practice settings in Argentina.^[21] In contrast, with different studies occurred in European regions.^[22,23] only the minority of pharmacists reported lack of relations with the other health-care teams considered one of obstacle of pharmaceutical care.

Another study which was conducted in northern Ethiopia also showed the effect of clinical programs on students' attitudes towards pharmaceutical services.^[24] These results also consistence with other studies that conduct in outside of Ethiopia.^[25]

5. CONCLUSION

Most pharmacists are familiar with the PC. However, almost less than third of them have a negative attitude towards PC. Since the negative attitude of pharmacists towards PC has considered the major obstacles of PC, the pharmacy association and health ministry should conduct a good education program toward pharmaceutical care services.

REFERENCES

1. Hepler CD, Strand LM, Opportunities and responsibilities in pharmaceutical care, *Am J Hosp Pharm*, 1990; 47: 533-543.
2. International Pharmaceutical Federation, FIP Statement of Professional Standards: Medication Errors Associated with Prescribed Medication, International Pharmaceutical Federation, Barcelona, Spain, 1999.

3. C. D. Hepler and L. M. Strand, "Opportunities and responsibilities in pharmaceutical care," *American Journal of Health-System Pharmacy*, 1990; 47(3): 533–543.
4. R. M. Clifford, W. A. Davis, K. T. Batty, T. M. E. Davis, and Fremantle Diabetes Study, "Effect of a pharmaceutical care program on vascular risk factors in type 2 diabetes: the Fremantle Diabetes Study," *Diabetes Care*, 2005; 28(4): 771–776.
5. B. A. Bunting and C. W. Cranor, "The Asheville project: long-term clinical, humanistic, and economic outcomes of a community-based medication therapy management program for asthma," *Journal of the American Pharmacists Association*, 2006; 46(2): 133–147.
6. F. Boeni, I. Arnet, and K. Hersberger, "Adherence counseling during patient contacts in Swiss community pharmacies," *Patient Preference and Adherence*, 2015; 9: 597–605.
7. D. P. D. L. Júnior, N. Kheir, J. P. Abriata, C. E. D. Rocha, C. B. D. Santos, and I. R. Pelá, "Impact of pharmaceutical care interventions in the identification and resolution of drug-related problems and on quality of life in a group of elderly outpatients in Ribeirão Preto (SP), Brazil," *Therapeutics and Clinical Risk Management*, 2007; 3(6): 989–998.
8. P. R. Neto, S. Marusic, D. P. de Lyra Júnior et al., "Effect of a 36-month pharmaceutical care program on the coronary heart disease risk in elderly diabetic and hypertensive patients," *Journal of pharmacy & Pharmaceutical Sciences*, 2011; 14(2): 249–263.
9. C. Xin, X. Ge, X. Yang, M. Lin, C. Jiang, and Z. Xia, "The impact of pharmaceutical care on improving outcomes in patients with type 2 diabetes mellitus from China: a pre- and post intervention study," *International Journal of Clinical Pharmacy*, 2014; 36(5): 963–968.
10. Ethiopian Standards Authority, *Comprehensive Specialized Hospital Requirements*, Ethiopian Standard ES 3618, Addis Ababa, Ethiopia, 2012.
11. D. L. Laven, "A review on specialization in pharmacy-part II: a commentary on postgraduate training and pharmaceutical care," *Journal of Pharmacy Practice*, 2002; 15(6): 504–514.
12. Y. Fang, S. Yang, B. Feng, Y. Ni, and K. Zhang, "Pharmacists' perception of pharmaceutical care in community pharmacy: a questionnaire survey in Northwest China," *Health & Social Care in the Community*, 2011; 19(2): 189–197.
13. S. A. Uema, E. M. Vega, P. D. Armando, and D. Fontana, "Barriers to pharmaceutical care in Argentina," *Pharmacy World & Science*, 2008; 30(3): 211–215.
14. S. Ngorsuraches and S. C. Li, "Thai pharmacists' understanding, attitudes, and perceived barriers related to providing pharmaceutical care," *American Journal of Health-System Pharmacy*, 2006; 63(21): 2144–2150.
15. N. Ahmed and N. AL-Wahibi, "Knowledge attitude and practice towards pharmaceutical care in community pharmacy in Saudi Arabia," *British Journal of Medicine and Medical Research*, 2016; 15(9): 1–9.
16. T. M. dos Reis, C. M. Guidoni, E. Giroto, R. R. Rascado, P. D. Mastroianni, and J. M. Cruciol, "Pharmaceutical care in Brazilian community pharmacies: knowledge and practice," *African Journal of Pharmacy and Pharmacology*, 2015; 9(9): 287–294.
17. S. Mesut, O. Betul, A. Sule, and V. Fikret, "Opinion and knowledge towards pharmaceutical care of the pharmacists participated in clinical pharmacy and pharmaceutical care continuing education program," *Turkish Journal of Pharmaceutical Sciences*, 2013; 10(2): 245–254.
18. M. S. E. Hajj, A. S. Hammad, and H. M. Afifi, "Pharmacy students' attitudes toward pharmaceutical care in Qatar," *Therapeutics and Clinical Risk Management*, 2014; 10.
19. M. A. H. Usman and O. S. Ilyas, "Assessment of knowledge, attitude and practice of community pharmacists towards pharmaceutical care in Kaduna State, Nigeria," *International Journal of Pharmacy Teaching & Practices*, 2014; 5(2): 972–976.
20. J. A. Dunlop and J. P. Shaw, "Community pharmacists' perspectives on pharmaceutical care implementation in New Zealand," *Pharmacy World and Science*, 2002; 24(6): 224–230.
21. Uema SA, Vega EM, Armando PD, Fontana D, Barriers to pharmaceutical care in Argentina, *Pharm World Sci.*, 2008; 30: 211-215.
22. Desselle S, Rappaport M, The Identification of pharmaceutical care practice standards in the community pharmacy setting, *J Pharmaceutical Care*, 1997; 1(3): 1-11.
23. Cordina M, McElnay JC, Hughes CM, The importance that community pharmacists in Malta place on the introduction of pharmaceutical care, *Pharm World Sci.*, 1999; 21: 69-73.
24. B. Tsega, A. Srikanth, B. Ranjan, Z. Shewamene, and T. Melaku, "Impact of clerkship attachments on students' attitude toward pharmaceutical care in Ethiopia," *Advances in Medical Education and Practice*, 2015; 6: 385–391.
25. C. Oparah and A. E. Eferakeya, "Attitudes of Nigerian pharmacists towards pharmaceutical care," *Pharmacy World & Science*, 2005; 27(3): 208–214.