Iskandar, Katia; Hallit, Souheil; Raad, Etwal Bou; Droubi, Fida; Layoun, Nelly; Salameh, Pascale
Community pharmacy in Lebanon: A societal perspective

Original Research

Community pharmacy in Lebanon: A societal perspective

Katia ISKANDAR [iD], Souheil HALLIT [iD], Etwal BOU RAAD [iD], Fida DROUBI, Nelly LAYOUN [iD], Pascale SALAMEH [iD].

Abstract

Objective: To assess patients' attitudes towards the community pharmacist's role and determine their negative and positive reactions towards community pharmacists in Lebanon.

Methods: A cross-sectional study, conducted between January and April 2016, was designed to assess the general public satisfaction with the services provided by the community pharmacies. It was carried out, using a proportionate random sampling of Lebanese community pharmacies from each district. Two sided statistical tests were used to compare between group percentages, Wilcoxon test for quantitative variables with non-homogeneous variances or non-normal distribution, and Student's t-test for quantitative variables of normal distribution and homogeneous variances. The ANOVA test was used to compare between three groups or more, and Pearson correlation coefficient were used to correlate between quantitative variables.

Results: a total of 565 participants completely answered the survey questions with a response rate of 94%. The bivariate analysis showed that the patient perception index was positively and significantly correlated with the patient level of expectation index, the overall pharmacy experience and the patient's reason for visiting the pharmacy ($p < 0.001$ for all 3 variables) but was negatively correlated with the barriers for asking questions significantly ($p = 0.032$). On the other hand, this perception index was significantly and positively associated with the number of pharmacy visits, the age categories, the level of education and the family monthly income ($p < 0.05$ for all variables).

Conclusion: Public perception and attitude toward community pharmacist in Lebanon is poor despite highly qualified pharmacists. Aspects of pharmacy services most relevant to patients were respect, empathy, a friendly staff, listening carefully, giving quality time, responding quickly to their needs and respecting their privacy. The ministry of Health in Lebanon, along with the Lebanese Order of Pharmacists should educate the pharmacist about working on the different issues patients are complaining about in order to play a more important role in the society and become the number one trusted health care professional.

Keywords

Community Pharmacy Services; Patient Satisfaction; Pharmacies; Professional Practice; Pharmacists; Surveys and Questionnaires; Lebanon

INTRODUCTION

The role of community pharmacist has expanded over the last three decades beyond dispensing medications towards enhancements of patient-centered care and pharmacist-patient interaction.[1,2] Through direct patient contact, pharmacists play an integral role in optimizing patient's health-related quality of life and achieving positive clinical outcomes all within limited cost.[3]

By taking the oath, pharmacists pledge to consider the welfare of their patients and community.[4,5] The pharmacist promises to devote himself to a lifetime of service to others through the profession of pharmacy, by considering the welfare of humanity and relief of patients' suffering, by applying one's knowledge, experience, and skills to assure optimal outcomes for my patients, while respecting and protecting all personal and health information entrusted in him/her. Furthermore, the pharmacist swears to hold himself and his colleagues to the highest principles of the profession's moral, ethical and legal conduct. Moreover, he will embrace and advocate changes that improve patient care.[6]

Many myths were generated around the pharmacy profession such as "In business the quality of care is secondary to generating profit",[7] but in fact "Business and pharmacy practice are mutually compatible" this occurs when patients perceive the community pharmacy trustworthy and feel satisfied from the service offered.[7]

Many studies on patient attitude and perception of community pharmacy services resulted in different findings.[8-20] In developed countries, such as in Europe, UK, the Netherlands, USA and Canada consumers[10-12,15-18,21] have a positive overall perception of community pharmacist services. In Australia for example, positive reaction to community pharmacy was directly linked to the level of provision of drug information where most of the Australians expect the pharmacist to counsel them about medications use.[22] In Japan, both patient's positive reaction and satisfaction were directly linked to the pharmacist level of knowledge and patient counseling whereas patients'

Katia ISKANDAR*. Faculty of Pharmacy, Lebanese University. Beirut (Lebanon). katia_iskandar@hotmail.com
Souheil HALLIT*. Research Department, Psychiatric Hospital of the Cross, Jal Eddib; & Faculty of Pharmacy, Lebanese University. Beirut (Lebanon). souheilhallit@hotmail.com
Etwal BOU RAAD. School of Pharmacy, Lebanese International University. Beirut (Lebanon). etwal.bouraad@liu.edu.lb
Fida DROUBI. Faculty of Pharmacy, Lebanese University. Beirut (Lebanon). fidadr@gmail.com
Nelly LAYOUN. Faculty of Pharmacy, Lebanese University. Beirut (Lebanon). nelly_layoun@hotmail.com
Pascale SALAMEH. Faculty of Pharmacy and Faculty of Medicine, Lebanese University. Beirut (Lebanon). pascalesalameh1@hotmail.com
*First co-authors

expectations involved privacy considerations, waiting times and respect.[23,24] On the other hand, in the Middle East, the patient attitudes and perception of community pharmacy service were not positive at all countries. In Iraq[19], Qatar[14] and Kuwait[20], there are lack of knowledge and appreciation of the pharmacy profession. The public is not aware that pharmacists are involved in monitoring drug therapy, performing health screening, and providing drug information. Other findings in Jordan[9] showed that patient perception for community pharmacy services is affected by insufficient time and patient interaction. On the other hand, the image and professional performance of community pharmacist are improving in Saudi Arabia 8 and positive overall perception of community pharmacists is acknowledged by the Palestinian society.[25] In Dubai (UAE), community pharmacists are also positively perceived and directly linked to pharmacist's knowledge and other factors such as attire, nationality, age, and pharmacy location.[13]

Based on the cognitive perspective, a role is formulated from different societal expectations on an individual occupying a specific position.[26,27] The literature suggests ten standards that patients and customers use to evaluate services: (1) reliability, (2) responsiveness, (3) assurance, (4) empathy, (5) tangibles, (6) friendliness, (7) fairness, (8) control, (9) options, and (10) alternatives.[26-33] Through these standards, the pharmacist's perceived image is enhanced, thus profitability. Therefore, providing quality customer service in a pharmacy requires understanding the aspects of pharmacy services relevant to the patients at specific community, and subsequently focusing on improving those aspects.

Lebanon is a small country in the Middle East with a population of around four million people and 2897 community pharmacies with a ratio of 66.06 pharmacies per 100,000 inhabitants.[31] Pharmacy students can graduate with a bachelor in pharmacy degree (5-year pharmacy program) or a PharmD. degree (6-year pharmacy program), with the possibility of higher education to obtain a masters or a doctor of philosophy (PhD) degree. Community pharmacies are privately owned on profit basis, and they are the only legal provider of prescription and non-prescription drugs to the Lebanese community. According to the Lebanese Order of Pharmacists (LOP) and the Ministry of Public Health (MOPH) laws, a MOPH-licensed and LOP-registered pharmacist should be present at all times during the pharmacy's opening hours. In addition, a technician can dispense a medication to the patient without consulting the pharmacist on duty. It is important to note that the Lebanese patients can buy any non-controlled medication as over the counter products, despite its classification as a prescription medication in other countries.[8]

According to our knowledge, there are no studies or clear understanding on patient attitudes and perceptions for pharmacist's services in Lebanon. The objectives of this study are to assess the public's attitudes towards the community pharmacist's role in Lebanon and to determine the public's negative and positive reactions towards community pharmacists in Lebanon.

METHODS

General study design

This cross-sectional study, conducted between January and April 2016, was designed to assess the general public satisfaction with the services provided by the community pharmacies at different Lebanese districts. It was carried out, using a proportionate random sampling of Lebanese community pharmacies from each district. A list of pharmacies was provided by the Lebanese Order of Pharmacists (LOP). We categorized the pharmacies per district and assigned a number to each community pharmacy in the order it appears on the LOP list. We used the program for the randomization process. An equal number of pharmacies was chosen from each district. The study received the approval of the Lebanese International University's Institutional Review Board.

Sample size calculation

A minimal sample of 318 patients was targeted to allow for adequate power for bivariable and multivariable analyses to be carried out according to the Epi info sample size calculations 33 with a population size of 4 million in Lebanon, a 34% expected frequency of patient satisfaction 34 and a 5% confidence limits. Lebanese patients entering the community pharmacies aged 18 years and above were enrolled in the study.

Data collection process

After a pilot study on twenty individuals to ensure questions were properly phrased, the data collection process started. To ensure consistency in the data collection, all survey team members underwent a training session on survey administration. Each investigator obtained the approval of the pharmacy owner to approach the patient. The investigator approached patients randomly; Patient's oral and written consents were obtained before entering the study. Each patient filled a self-administered questionnaire within approximately 20 minutes. The patients had the choice to accept or refuse to answer the questionnaire. At the end of the process, the completed questionnaires were collected back for data entry.

The questionnaire

The questionnaire was in Arabic language, the native language in Lebanon. The questions used were adopted from similar studies done at different Middle Eastern and European countries.[1,8,9,11-15,19]

The study questionnaire was divided into multiple parts: The first part includes the patient's sociodemographic characteristics including age, gender, marital status, level of education and residential area. The second part consists of patient positive and negative reactions towards the pharmacists as well as patient overall experience. This includes questions related to patient's expectations of a good pharmacy service, patient's perception of the pharmacist role in the community and about the barriers between the patient and the pharmacist.

The third part included a 3-point Likert scale to assess further the extent to which patients agreed with

OU

statements related to the pharmacist's roles in the community.

A Patient Perception Index was created by adding the score of each question that constitute the part of the questionnaire about the patient positive perception for the pharmacist role in the community pharmacies concerning counseling about drug use, administration, side effects, checking for drug-drug and drug-food interactions, counseling about the disease, diagnosis of the problem and the given treatment, checking for accuracy of the prescription with regard to drug name and dose, referring the patient to a physician or a hospital, advising about non-pharmacological treatment, listening to patient's problems, following up with the patient about their conditions, the ability to give injections and to be able to interpret laboratory tests results and dispensing the right ordered medication only. A higher index indicates a more positive perception, with a score varying between 0 and 14. Same applies for the level of expectation index (score between 0 and 11), barriers for asking questions (score between 0 and 7), the patient's pharmacy experience (score between 0 and 9) and the reason for visiting the pharmacy (score between 0 and 12) (see attached questionnaire). The questionnaire was adopted from similar studies done at different Middle Eastern and European countries and tailored according to the conceptual model dimensions perceptions, expectations and reactions.[1,8,9,11-15,19,26]

Statistical analysis

Data entry was performed by one person who was not involved in the data collection process. Statistical analysis was performed using SPSS software, version 22. Percentages were shown for qualitative variables, while means and standard deviation were given for quantitative variables. Two sided statistical tests were used to compare between group percentages, Wilcoxon test for quantitative variables with non-homogeneous variances or non-normal distribution. The ANOVA test was used to compare between three groups or more, and Pearson correlation coefficient were used to correlate between quantitative variables. A p-value of 0.05 was considered statistically significant. To confirm the conceptual model questionnaire construct validity in the Lebanese population, a factor analysis was conducted on eleven questions concerning the patient's level of expectations, fourteen questions concerning patient's perception and seven questions concerning patient's barriers for asking questions. The main aim of these questions is to explain the correlations among these factors and patient's satisfaction from pharmacy services.

The factor analysis was conducted using the principal component analysis technique, with a promax rotation since the extracted factors were found to be significantly correlated. The Kaiser-Meyer-Olkin measure of sampling adequacy and Bartlett's test of sphericity were ensured to be adequate. The retained number of factors corresponded to Eigenvalues higher than one. Moreover, Cronbach's alpha was recorded for reliability analysis for the different subscale factors.

RESULTS

A total of 600 surveys were distributed to take the refusal rate into account, and a total of 565 participants (from 42 community pharmacies) completely answered the survey questions, with a percentage of completed questionnaire used for analysis of 94% (6% refusal rate).

Table 1 summarized the patients' sociodemographic characteristics. The respondents were all Lebanese citizens, with the majority of them aging between 18-30 years old. Our sample included mostly females (56.5%). The majority of respondents were married (60.5%); 37.5% had a family size of 4 persons and more and 44.2% of respondents had an income of less than three millions Lebanese Liras (2000 USD) per month; 41.1% had a university degree and 39.3% of respondents were not working.

We calculated the reliability of each scale to assess the quality of our data. We obtained high Cronbach alphas for all scales as follows: level of expectation scale (0.921), patient perception scale (0.926), patient's experience scale (0.804), and patient's barrier scale (0.755).

Respondents showed a broad range of expectations from pharmacy services with approximately similar response rates based on intangibles like respect (38.8%), empathy (41.4%), quick response to questions (42.8%) and quick services (40.5%) as well as good counseling (39.6%), in addition to tangibles like the presence of pharmacist at all time in the pharmacy (39.5%) as well as the availability of

Table 1. Sociodemographic characteristics of the participants (N= 565)	
Factor	**Frequency (%)**
Gender	
Males	246 (43.5%)
Females	319 (56.5%)
Age category	
18-30	224 (39.6%)
31-40	131 (23.2%)
41-50	93 (16.5%)
51-65	79 (14%)
More than 65	38 (6.7%)
Marital status	
Single	223 (39.5%)
Married	342 (60.5%)
Current family size	
Living alone	24 (4.2%)
2 members	54 (9.6%)
3 members	122 (21.6%)
4 members	153 (27.1%)
More than 4 members	212 (37.5%)
Level of education	
No school	49 (8.7%)
Less than 8 years	88 (15.6%)
Finished school	109 (19.3%)
University degree	232 (41.1%)
Post graduate degree	87 (15.4%)
Work status	
No	222 (39.3%)
Yes	334 (59.1%)
Disabled	9 (1.6%)
Family monthly income	
No current income	52 (9.2%)
Less than 1 million LL (666 USD)	99 (17.5%)
Between 1-3 million LL (666-2000 USD)	250 (44.2%)
More than 3 million LL (> 2000 USD)	164 (29%)

OU

Table 2. Correlation between parameters and the perception index.		
Factor	**Correlation**	**p-value**
Level of expectation index	0.878	<0.001
Barriers for asking questions	-0.09	0.032
Pharmacy experience	0.733	<0.001
Reason for visiting the pharmacy	0.81	<0.001

any requested product (41.1%) and providing services other like measuring blood pressure (40%) and home services (46.9%).

Patients' perception of a community pharmacist as the one who counsels about drug use and administration (37.7%), dispenses the right physician's order (39.3%), checks drug interactions (42.3%), listens to patients' problems (46%), counsels about the diseases (46.9%), diagnoses the problem, gives the appropriate treatment (48.5%), gives the non-pharmacological advice (47.4%), follows-up with the patient conditions (47.8%). In addition 38.9% of the respondents want the pharmacist to give injections when needed and interpret laboratory results (47.4%).

The results showed that as much as 55.9% of respondents do not trust the pharmacist while 45.7% considered that the pharmacist lacks the knowledge or had no time to counsel (46.5%). Other answers were related to the

pharmacist's attitude, like patient fear of intimidation (47.8%) or pharmacist negative behavior (49.4%).

Respondents revealed that the pharmacist asks them about their past medical history in 57% of the times, their current problem and concurrent treatment in 48.3% and 47.1% of the times respectively. 43.7% of the respondents answered that the pharmacist advises them about the use of medications, non-pharmacologic treatment (51%), potential drug interactions (47.6%) and explains about complications of their diseases (46.9%) and follow-up schedule (47.4%) or refers them to a physician or a hospital when needed (41.1%).

In order to further assess the extent of response rates, a 3-point Likert scale was used to assess patient's opinion. The results revealed that only 40.4% of respondents agreed that the pharmacist listens carefully or gives them enough time (34%) or even responds quickly (40%), or gives valuable information (40.2%). In addition, 42.5% agreed that the pharmacist respects their privacy and 37% of these pharmacists encourage further questions.

The results also showed that the main reason for visiting a pharmacy is because of the parking availability and the pharmacy reputation (46.2% for both variables), the location proximity (44.6%), the good service and the

Table 3. Bivariate analysis of the perception index- description of numbers and mean (SD of parameters.			
Factor	**Num. patients**	**Mean (SD**	**p-value**
Number of visits to the pharmacy			0.069
Once per week	133	6.79 (5.21)	
More than once per week	118	5.17 (4.70)	
Once per month	166	6.03 (4.92)	
Less than once per month	148	6.30 (4.87)	
Pharmacy visiting site			<0.001
Same pharmacy each time	325	6.86 (5.22)	
Different pharmacy depending on the situation/circumstances	239	5.09 (4.36)	
Age category			<0.001
18-30	224	4.90 (4.40)	
31-40	131	6.33 (4.92)	
41-50	93	6.57 (5.17)	
51-65	79	7.21 (5.24)	
More than 65	38	8.94 (5.18)	
Current family size			0.318
Living alone	24	6.91 (5.17)	
2 members	54	5.05 (4.82)	
3 members	122	6.36 (5.19)	
4 members	153	6.51 (5.28)	
More than 4 members	212	5.83 (4.54)	
Level of education			0.005
No school	49	8.97 (5.55)	
Less than 8 years	88	5.90 (5.11)	
Finished school	109	5.94 (4.53)	
University degree	232	5.64 (4.75)	
Post graduate degree	87	6.11 (5.01)	
Work status			0.091
No	222	6.31 (4.92)	
Yes	334	6.06 (4.99)	
Disabled	9	2.44 (2.07)	
Family monthly income			0.033
No current income	52	6.67 (5.66)	
Less than 1 million LBP	99	7.05 (5.08)	
Between 1-3 million LBP	250	6.03 (4.90)	
More than 3 million LBP	164	5.46 (4.63)	
Gender			0.576
Male	246	5.97 (4.96)	
Female	319	6.20 (4.94)	
1500 LBD about 1 USD			

OU

availability of a large variety of products (43.5% and 43.4% respectively) or even because of the discounts and better prices (39.8%).

The number of visits varied almost equally between once per week or more to less than once per month; 57.5% of the participants showed loyalty to the same pharmacy.

The mean score for the level of expectations index was 4.55 (SD=4.04), while that of the patient perception index was 6.10 (SD=4.95). Furthermore, the mean score for the barriers for asking questions index was 3.27 (SD=2.29), as compared to 5.36 (SD=4.04) for the index for the main reason for visiting the pharmacy. As for the pharmacy experience index, the mean score was 4.30 (SD=3.04).

The bivariate analysis showed that the patient perception index was positively and significantly correlated with the patient level of expectation index, the overall pharmacy experience and the patient's reason for visiting the pharmacy (p<0.001, for all 3 variables) but was negatively correlated with the barriers for asking questions significantly (p=0.032) (Table 2).

On the other hand, this perception index was significantly and positively associated with the pharmacy visiting site, the age categories, the level of education and the family monthly income (p<0.05 for all variables) (Table 3).

DISCUSSION

This study is the first known in Lebanon to assess community pharmacy from a societal perspective and to examine the general public's attitudes, views, and practices regarding community pharmacy services. The results of the survey showed that the public expectations of a good service is similar to the findings in the literature[28,29] where intangible standards including respect, empathy, good counseling and quick response to questions in addition to tangible standards like availability of options, better prices and at-home services were equally valued. The survey also showed that the Lebanese public has a poor understanding of the role and the services provided by the community pharmacist, similar to the findings of El Hajj et al.[14] that also encompasses additional services valued by the public like giving injections and interpreting laboratory results that are not validated or accepted by the pharmacy law. If the transition to pharmaceutical care is to occur successfully in Lebanon, considerable efforts should be made by the Lebanese Order of Pharmacists to raise public expectations about their professional role and must demonstrate the potential benefits of extending pharmacists' contributions to the medication use process beyond ensuring accurate dispensing and providing basic counseling.

In addition, the study showed the Lebanese society has a poor image of the pharmacists, as shown by a low level of trust in the pharmacist, the thought of them as not qualified enough to advise about appropriate use of medications and not being a reliable source for health advice or in case of emergency. This confirms previous findings of earlier surveys from other developing countries[8,19,25] This might be due to some bad experiences witnessed by the participants with some pharmacists, or a public lack of knowledge about the pharmacists' potentials,

expertise and the variety of services they can deliver at their pharmacies. The Lebanese Order of Pharmacists can play an essential role in educating the public about the ease of pharmacist's availability, expertise and educational knowledge.

The assessment of barriers for patients in asking questions to the pharmacist showed that the constant absence of the pharmacist at the pharmacy, the lack of time for counseling, the pharmacist's attitude that generates fear of intimidation, pharmacist negative behavior, lack of privacy and the alarming result related to lack of knowledge, all of which reflect the poor perception of community pharmacist at the Lebanese society. These findings are opposite to the ones of El Hajj et al.[14] that showed that overall respondents had positive attitudes toward the community pharmacist in Qatar. These findings might be due to current economic situation or lack of staff members; in general only one or two persons are present during one shift at the Lebanese pharmacies. If pharmacists are less involved in medication dispensing, they will have more time for patient centered pharmacy services.

Less than 30% of the patients visited the community pharmacy at least once a month. This does not correlate well with the frequency of community pharmacy visits cited in other studies in Qatar (52%), Jordan (67.4%), Northern Ireland (67.7%), Malta (70.8%), and the United Kingdom (74.6%).[9,14,15] However, more than half of them are loyal to the same pharmacy.

Less than half of the respondents agreed that the pharmacist gives them thorough counseling concerning drug-drug and drug-food interactions, medications side effects, potential complications of the disease, etc. But in fact, counseling is considered one of the main pillars of the pharmaceutical care and is vital for achieving the best therapeutic outcome. Pharmacists would probably assume that the patient has already the required information from his physician. To note that counseling is mandatory in Canada and the United States, giving the opportunity to the patient to get all the required information about his disease and treatment before leaving the pharmacy.[33]

In addition, 42% agreed that there is no privacy area inside the pharmacies. This might be a major barrier for the patient to consult the pharmacist, in opposite to developed countries where a specific private consultation area is available for the patients. We suggest this aspect to be taken into consideration by community pharmacists in Lebanon.

One of the major findings in this study indicated that individuals with middle to low family incomes were more likely to be satisfied with pharmacy services, consistent with the findings from previous studies.[34,35] We believe that patient satisfaction in association with financial status can be a more complicated matter and may not be sufficiently explained by family income or spending on health care expenses without considering the insurance structure or health care system of each society.

Our findings suggested that illiterate patients and those with university level of education had the highest perception towards the community pharmacist. These data show a change in the profile of patients that attended

OU

public pharmacies. The majority of former studies showed a predominance of users and/or carers with low education.[36] However, as in the present work, there are reports of a prevalence of individuals with higher-level education.[37,38] Satisfaction is also related to higher education since this may be related to better understanding about drugs and/or better access to information other than the pharmacist, such as physicians, thus improving treatment adherence.[39]

Elderly patients were more likely to have a higher perception towards the community pharmacist compared to other age groups, similar to the results of Ibrahim et al 19. In addition, a higher perception score was seen in patients using the same pharmacy, in agreement with a previous study[40]; using a single community pharmacy may create close patient-pharmacist relationships and improve health outcomes. However, patients might also prefer going to multiple pharmacies because of price concerns and insurance diversification.[40]

Limitations

Our study, like in all studies, has its limitations. The test used in this study was not validated among the Lebanese population. The small sample size might not be representative of the whole population since we don't have the results per pharmacy location. Another limitation is related to patients' bias toward the pharmacy they are accustomed to visit. In addition, elderly patients were reluctant to participate in the survey, and thus underrepresented, compared to respondents from different age groups which is also a limitation because the data findings cannot be generalized adequately. Since older subjects are not represented, this might explain some of the negative views. Moreover, we did not determine if the pharmacist was too busy to interact with patients, in other terms, how busy the pharmacist was and how many prescriptions or public requests he was handed on average daily or weekly. We did not assess the number of prescriptions taken by each patient. It is not clear how much information the public has on the use of the pharmacist. These patients may not interact with the pharmacist as much due to lack of use of medications.

CONCLUSIONS

Public perception and attitude toward community pharmacist in Lebanon is poor despite highly qualified and dedicated pharmacists. Aspects of pharmacy services most relevant to patients were respect, empathy and a friendly staff, listening carefully, giving quality time, responding quickly to their needs and respecting their privacy. Focusing on those aspects can enhance pharmacy image and build a longtime relation based on trust. In addition, the Order of Pharmacists in Lebanon, the Ministry of health and community pharmacists can collaboratively play a crucial role in enforcing the established laws including continuous education, pharmacy accreditation and in enhancing public awareness about the role of the pharmacist in the community in order to secure patient safety and enhance the public perception of the community pharmacist as a healthcare professional.

ACKNOWLEDGMENTS

CONFLICT OF INTEREST

FUNDING

References

1. Sabater-Galindo M, Ruiz de Maya S, Benrimoj SI, Gastelurrutia MA, Martinez-Martinez F, Sabater-Hernandez D. Patients' expectations of the role of the community pharmacist: Development and testing of a conceptual model. Res Social Adm Pharm. 2017;13(2):313-320. doi: 10.1016/j.sapharm.2016.04.001

2. American Pharmacist Association (1998). ASHP Statement on Pharmaceutical Care. Medication Therapy and Patient Care: Organization and Delivery of Services-Statements. Available at: http://www.ashp.org/doclibrary/bestpractices/orgstpharmcare.aspx (accessed 26-Nov-2016).

3. Guirguis LM, Chewning BA. Role theory: literature review and implications for patient-pharmacist interactions. Res Social Adm Pharm. 2005;1(4):483-507. doi: 10.1016/j.sapharm.2005.09.006

4. Benner J, Beardsley R; American Pharmaceutical Association Academy of Students of Pharmacy; American Association of Colleges of Pharmacy; Council of Deans Task Force on Professionalism. White paper on pharmacy student professionalism. J Am Pharm Assoc (Wash). 2000;40(1):96-102.

5. Stewart DC, George J, Bond CM, Cunningham IT, Diack HL, McCaig DJ. Exploring patients' perspectives of pharmacist supplementary prescribing in Scotland. Pharm World Sci. 2008;30(6):892-897. doi: 10.1007/s11096-008-9248-x

6. American Pharmacist Association (2007). Oath of a Pharmacist. Available at: https://www.pharmacist.com/oath-pharmacist (accessed 26-Nov-2016).

7. Tarn DM, Paterniti DA, Wenger NS, Williams BR, Chewning BA. Older patient, physician and pharmacist perspectives about community pharmacists' roles. Int J Pharm Pract. 2012;20(5):285-293. doi: 10.1111/j.2042-7174.2012.00202.x

8. Al-Arifi MN. Patients' perception, views and satisfaction with pharmacists' role as health care provider in community pharmacy setting at Riyadh, Saudi Arabia. Saudi Pharm J. 2012;20(4):323-330. doi: 10.1016/j.jsps.2012.05.007

9. Al-Wazaify M, Matowe L, Albsoul-Younes A, Al-Omran OA. Pharmacy education in Jordan, Saudi Arabia, and Kuwait. Am J Pharm Educ. 2006;70(1):18.

10. Briesacher B, Corey R. Patient satisfaction with pharmaceutical services at independent and chain pharmacies.. Am J Health-Syst Pharm. 1997;54(5):531-536.

OU

11. Catic T, Jusufovic FI, Tabakovic V. Patients perception of community pharmacist in Bosnia and Herzegovina. Mater Sociomed. 2013;25(3):206-209. doi: 10.5455/msm.2013.25.206-209

12. Cavaco AM, Dias JP, Bates IP. Consumers' perceptions of community pharmacy in Portugal: a qualitative exploratory study. Pharm World Sci. 2005;27(1):54-60.

13. Rayes IK, Hassali MA, Abduelkarem AR. A qualitative study exploring public perceptions on the role of community pharmacists in Dubai. Pharm Pract (Granada). 2014;12(1):363.

14. El Hajj M, Mansoor H. Public's attitudes towards community pharmacy in Qatar: a pilot study. Patient Prefer Adherence. 2011;5:405-422. doi: 10.2147/PPA.S22117

15. Wirth F, Tabone F, Azzopardi LM, Gauci M, Zarb-Adami M, Serracino-Inglott A. Consumer perception of the community pharmacist and community pharmacy services in Malta. J Pharm Health Serv Res. 2010;1(4):189-194. doi: 10.1111/j.1759-8893.2010.00034.x

16. Anderson C. Health promotion by community pharmacists: consumers' views. Int J Pharm Pract. 1998;6(1):2-12. doi: 10.1111/j.2042-7174.1998.tb00910.x

17. Bell HM, McElnay JC, Hughes CM, Gleadhill I. Primary schoolteachers' knowledge of asthma: the impact of pharmacist intervention. J Asthma. 2000;37(7):545-555.

18. Bornman S, Truter I, Venter DJ. Public perception of community pharmacists in South Africa: a preliminary study: research. Health SA Gesondheid. 2006;11(3):27-40.

19. Ibrahim IR, Al Tukmagi HF, Wayyes A. Attitudes of Iraqi society towards the role of community pharmacists. Innovations in Pharmacy. 2013;4(2):114.

20. Matowe L, Al-Kandery AS, Bihzad SM.. Pharmacy in Kuwait. Am J Health Syst Pharm. 2003 Aug 1;60(15):1591-1592.

21. Ried LD, Wang F, Young H, Awiphan R. Patients' satisfaction and their perception of the pharmacist. J Am Pharm Assoc (Wash). 1999 8;39(6):835-842.

22. Oritz M, Liden D, Thomas R, Morgan G, Morland R. The impact of professional services on pharmacy patronage: findings of a pharmacy practice foundation survey (Part 6). Aust J Pharm. 1987;68:207-214.

23. Kamei M, Teshima K, Fukushima N, Nakamura T. Investigation of patients' demand for community pharmacies: relationship between pharmacy services and patient satisfaction. Yakugaku Zasshi. 2001;121(3):215-220.

24. Nakayama C, Oshima T, Kato A, Nishii M, Kamimura T, Nitta A, Yamaguchi M. Questionnaire survey on patient satisfaction at community pharmacies. Science Postprint 2014;1(1): e00012. doi: 10.14340/spp.2014.01A0001

25. Khdour MR, Hallak HO. Societal perspectives on community pharmacy services in West Bank - Palestine. Pharm Pract (Granada). 2012;10(1):17-24.

26. Patwardhan PD, Amin ME, Chewning BA. Intervention research to enhance community pharmacists' cognitive services: a systematic review. Res Social Adm Pharm. 2014;10(3):475-493. doi: 10.1016/j.sapharm.2013.07.005

27. Larson LN, Rovers JP, MacKeigan LD. Patient satisfaction with pharmaceutical care: update of a validated instrument. J Am Pharm Assoc (Wash). 2002;42(1):44-50.

28. Leland K, Bailey K. Customer service for dummies. New York: John Wiley & Sons; 2011.

29. Parasuraman A, Zeithaml VA, Berry LL. SERVQUAL: a multiple-item scale for measuring consumer perceptions of service quality. J Retailing. 1998;64(1):15-40.

30. Zeenny R. Forecasting the future of pharmacy in Lebanon: The Magic of Numbers. Conference of The Lebanese Order of Pharmacists. Pharmacy Day 2016; Lebanon, 2016.

31. Centers for disease control and prevention (2016). Epi info 7. Available at: http://wwwn.cdc.gov/epiinfo/7/index.htm (accessed 26-Nov-2016).

32. Yang S, Kim D, Choi HJ, Chang MJ. A comparison of patients' and pharmacists' satisfaction with medication counseling provided by community pharmacies: a cross-sectional survey. BMC Health Serv Res. 2016;16:131. doi: 10.1186/s12913-016-1374-x

33. Huang SW. The Omnibus Reconciliation Act of 1990: redefining pharmacists' legal responsibilities. Am J Law Med. 1998;24(4):417-442.

34. Oparah AC, Kikanme LC. Consumer satisfaction with community pharmacies in Warri, Nigeria. Res Social Adm Pharm. 2006;2(4):499-511. doi: 10.1016/j.sapharm.2006.02.004

35. Lee S, Godwin OP, Kim K, Lee E. Predictive factors of patient satisfaction with pharmacy services in South Korea: A cross-sectional study of national level data. PLoS One. 2015;10(11):e0142269. doi: 10.1371/journal.pone.0142269

36. Castellano AG, Moreira LB, Kaimoto T, Moreira H. [Socioeconomic aspects in patients with refractive disorder]. Arq Bras Oftalmol. 1999;62(6):697-700.

37. Hercos BVS, Berezovsky A. [Quality of the ophthalmologic service provided to outpatients of the Unified Health System-SUS]. Arq Bras Oftalmol. 2006;69(2):213-219.

38. Benazzi LEB, Figueiredo ACL, Bassani DG. [Evaluation of the user about the ophthalmologic care offered by the SUS in an urban center in the south of Brazil]. Cien Saude Colet. 2010;15(3):861-868.

39. Dewulf NdLS, Monteiro RA, Passos ADC, Vieira EM, Troncon L. [Adherence to drug treatment in patients with chronic gastrointestinal diseases accompanied at the outpatient clinic of a university hospital]. Rev Bras Cienc Farm. 2006;42(4):575-584. doi: 10.1590/S1516-93322006000400013

40. Xu KT. Choice of and overall satisfaction with pharmacies among a community-dwelling elderly population. Med Care. 2002 Dec;40(12):1283-1293. doi: 10.1097/01.MLR.0000036411.91560.30