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ASSESSMENT OF COMMUNITY PHARMACISTS' INVOLVEMENT IN PUBLIC HEALTH PROMOTION SERVICES IN BEIRUT, LEBANON

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ASSESSMENT OF COMMUNITY PHARMACISTS' INVOLVEMENT IN PUBLIC HEALTH PROMOTION SERVICES IN BEIRUT, LEBANON

Abstract

Background: The role of pharmacists is growing globally; the shift from the traditional role of preparing and dispensing medications, to a role in medication therapy management and public health services is started to be acceptable worldwide.

Objective: The aim of the study was to assess the participation level of community pharmacists' in certain public health services promotion as well as the barriers that hindered such provision.

Method: A questionnaire based study has been carried targeting Lebanese community pharmacists working in Beirut, Lebanon. Socio-demographic information, types of public health consultations offered in the pharmacy, and the barriers confronted by the community pharmacists were collected and analyzed using SPSS version 24.

Results: The level of involvement of community pharmacists in the provision of public health services accounted for 72.6, 72.2, 65, 46.2, 46.2, and 45.3% in counseling on hypertension, weight management, diabetes, contraceptive use, smoking cessation, and drug abuse, respectively. The Level of education, as well as years of experience, affected the pharmacist's involvement in most of the services. Sixty-one percent from the participants offer drug treatment options to help their patients in smoking cessation. Nutrition and diet showed the highest ranked in terms of percentage (82.9%) in weight management. Eighty-three percent of the respondents counseled their patients when to start their combined hormonal contraceptives pills. Fifty-eight percent from the respondents offer psychological support when counseling on drug abuse. The highest percentage is seen when counseling regarding lifestyle modifications in both diabetes and hypertension management. Lack of time was one of the most common barriers to practice health promotion encountered by pharmacists.

Conclusion: Even though the community pharmacists are playing a vital role in public health promotion, this role should be strengthened by implementing rules that impose this service and the necessary skills needed to achieve better outcomes.

Keywords

Pharmacists, Public health, Promotion, Community, Barriers

1. INTRODUCTION

The pharmacy profession has changed from being simply a drug-centered approach to a patient-centered one (Desselle, 2012). In fact, the pharmacist, being a drug expert is fulfilling an important role in patient care by applying medication treatment management. Drug-misadventure, such as drug interactions, drug adverse effects, errors in the medications use, and non-adherence to medications treatment, is improved by pharmacists through patient counseling (Rantucci, 2007). Pharmacists, nowadays, have shown a high involvement in the public health section due to the extended opening hours of their pharmacies, frequent contact with the public, easy accessibility, and wide distribution among the community (Laliberte et al., 2007; Erku & Mersha, 2017). Public health services cover a lot of diverse topics such as but not limited to the following: diabetes mellitus, hypertension, obesity/overweight, smoking, contraceptives, sexual health, and drug abuse (Laliberte et al., 2012; Anderson et al.; King & King, 2020).

Community pharmacist is involved in diabetes mellitus management through improving patient knowledge on diabetes, educating patients on the importance of routinely screening for the development of neuropathy, retinopathy and nephropathy, and counseling on the proper use of oral and injectable anti-diabetic medications. The pharmacist is also responsible to train the patients on the use of blood glucose meters in order to monitor blood glucose levels. Moreover, smoking cessation, healthy diet, and weight management are tips given by the pharmacists in order to reach better treatment outcomes (Hughes, 2017; Shrestha et al., 2015).

Hypertension is a silent disease with no warning signs and symptoms (Santschi et al., 2014). As a consequence, the pharmacist has an important role in screening and managing hypertension while focusing on medication adherence (Morgado et al., 2011). In fact, the pharmacist is responsible to prevent treatment failure, improve patient knowledge on hypertension, educate the patients on the use of home blood pressure monitor, and counsel on the importance of smoking cessation, exercise, and following a Dietary Approaches to Stop Hypertension (Morgado et al., 2011; Zillich et al., 2002; Bell et al., 2015).

Obesity is a risk for developing certain diseases¹⁴. In this concern, the pharmacists are involved in minimizing this risk by offering counseling tips on nutritional and lifestyle modifications, selecting an appropriate nonprescription weight loss agent if needed, and counseling on the proper use of the anti-obesity medications to reduce any adverse effects (Awad & Waheedi, 2012).

A high percentage of death due to smoking is reported every year. Although a large number of smokers implements their efforts to quit smoking, unfortunately only a very small percentage showed positive outcomes. As a consequence, community pharmacist is involved in smoking cessation by identifying the smokers and their smoking status, offering behavioral techniques and pharmacotherapy to smokers when needed and following the 5A's (Ask, Advise, Assess, Assist, and Arrange) model in the treatment plan (Sutherland, 2002; El Hajj et al., 2012; Hudmon et al., 2006; Kurko et al., 2010).

The increase in the rate of unwanted or mistimed pregnancy seen worldwide, encourage the pharmacist to take responsibility concerning contraceptive awareness. In fact, before prescribing any contraceptives pill, the pharmacist should take a full patient history to check on the safety of using them and educate the patients about the appropriate use of these drugs including the proper day to start, the action taken in case of a missed dose, monitoring needed to detect possible adverse effects and assessment of drug interactions (Peters & Dipietro, 2016; Amin & Chewing, 2016). Nowadays, the community pharmacist is also taking part in providing sexual and reproductive health education for the public, especially adolescents and young adults. His role starts by taking a full nonjudgmental patient history and offering educational tools to patients covering sexual transmitted diseases awareness, prevention, and treatment (Abraham et al., 2017).

Pharmacists are drug experts, with a unique background on the safe, effective use of medications which support their involvement in drug abuse management through taking a complete patient drug history including over the counter and herbal drugs and interfering in the treatment process through prevention, education, and assistance (Tommasello, 2004; LEEPER, 2014).

As a consequence of the diversity of community pharmacist's duties including public health promotion involvement, the study aimed to assess the activities done by pharmacists in the field of public health and to define the barriers that have hindered the provision of such activities.

2. MATERIAL AND METHOD

2.1 Method

A descriptive cross-sectional, questionnaire-based study was carried out in Beirut between March and April, 2018. All Lebanese community pharmacists working in the Beirut area were invited to fill the questionnaire anonymously with no compensation in return. The study protocol followed the ethical standards of Beirut Arab University institutional review board that fulfill the 1964 Helsinki declaration and its later amendments although the study was waived from approval since it was an observational one.

2.2 Sample Size

The sample size was calculated using the Raosoft® online calculator. Assuming that there are around 500 community pharmacists in Beirut area, a total of 218 and above would be considered a representative sample with a 5% margin error and a 95% confidence interval.

The current questionnaire was based on the study done by Marie-Claude Laliberté (Maladies & Laliberte, 2012). Some items were refined or removed and additional statements were added to suit the research purpose and context. A pilot study was conducted by testing the questionnaire among a convenience sample of 10 community pharmacists for acceptability, and feedbacks in terms of length and language clarity. Based on their feedback, the questionnaire was adjusted.

2.3 Questionnaire and data collection

The questionnaire was presented in English. It included sociodemographic information and professional backgrounds such as gender, age, education level, and years of experience. Pharmacist characteristics including working hours per day, the number of patients handled per day, number of private consultations per day, and working characteristics were questioned. In addition, pharmacy's characteristics such as the number of pharmacists working in the pharmacy, and opening hours of the pharmacy were also gathered. Moreover, the kind of public health consultations offered in the pharmacy to the patients on smoking cessation, drug abuse, contraceptives use, weight management, diabetes and hypertension counseling, and sexual health were evaluated. Finally, the barriers that confronted the community pharmacist and limited their contribution in public health promotion in the practice site were examined.

2.4 Statistical Analysis

The completed questionnaires were coded and spreadsheets were created for data entry. The data were analyzed using SPSS version 24. Descriptive statistics were used to summarize the sociodemographic information, characteristics of the study respondents, and corporate image section. The relationships between variables were studied using binary logistic regression. Confidence level and the level of significance were fixed at 95% and 5%, respectively.

3. RESULTS

The sample size collected included 234 community pharmacists accounting for 56.4% female and 43.6% males. Forty-one point nine percent of the interviewed community pharmacists had their ages between 23 and 30 years, and only 3 percent of the respondents were above 65 years old. Forty-two point seven percent of the respondents had more than 10 years of working experience in community pharmacy. Moreover, 53.8% of the participants hold a bachelor degree in pharmacy, while only 4.3 % hold a Ph.D. (Refer to table 1).

Table 1: Community pharmacists' characteristics

Characteristic	Percentage(frequency)
Sex	
Females	56.4(132)
Males	43.6(102)
Age	
23-30	41.9(96)
31-40	26.5(62)
41-50	18.4(43)
51-65	10.3(24)
More than 65	3.0(7)
Higher education degree	
BS only	53.8(126)
Pharm D	26.1(61)
Masters	15.8(37)
PHD	4.3(10)
Years of experience	
<2	9.0(21)
2-5	28.2(66)
5-10	20.1(47)
>10	42.7(100)

Interviewed community pharmacists were “More involved” in weight management (72.2%), counseling on diabetes (65%), and counseling on hypertension (72.6%). On the other hand, 10.7% of the participants were not involved in counseling on contraceptives use, nor sexual health (13.7%), nor smoking cessation (14.1%), nor drug abuse (20.9%) (Refer to figure 1).

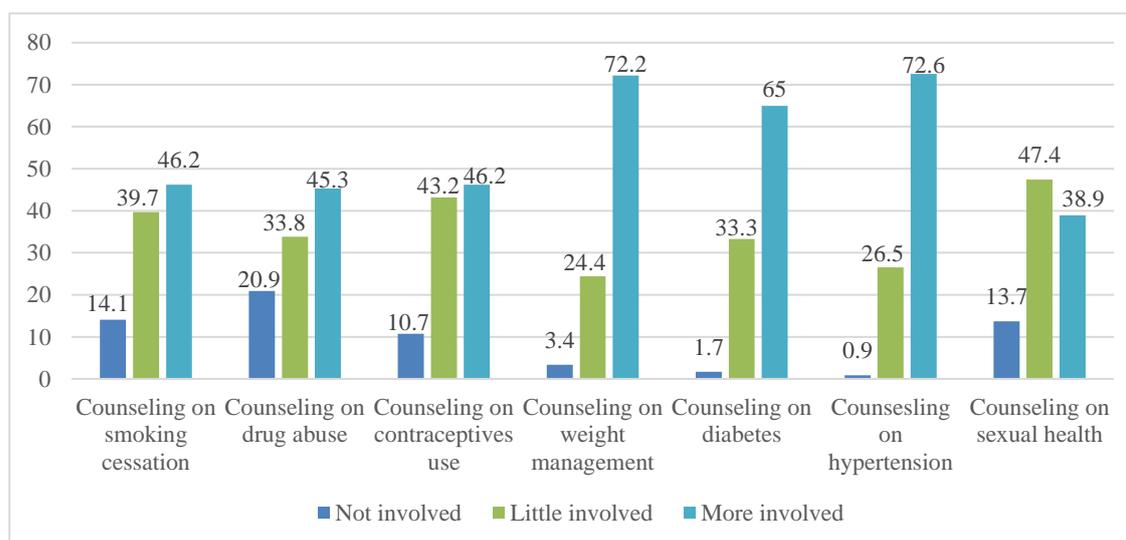


Fig.1: Community pharmacist's level of involvement in public health services promotion

The main barrier to provide public health services was lack of time (70.5%). Lack of clinical tools (20.9%), lack of stuff (27.4%), lack of space (28.6%), lack of knowledge and clinical skills (10.3%), lack of coordination (36.8%), the fact that prevention is not a priority (38.9%), and the lack of remuneration (18.8%) were also mentioned as barriers encountered by the pharmacists (Refer to figure 2).

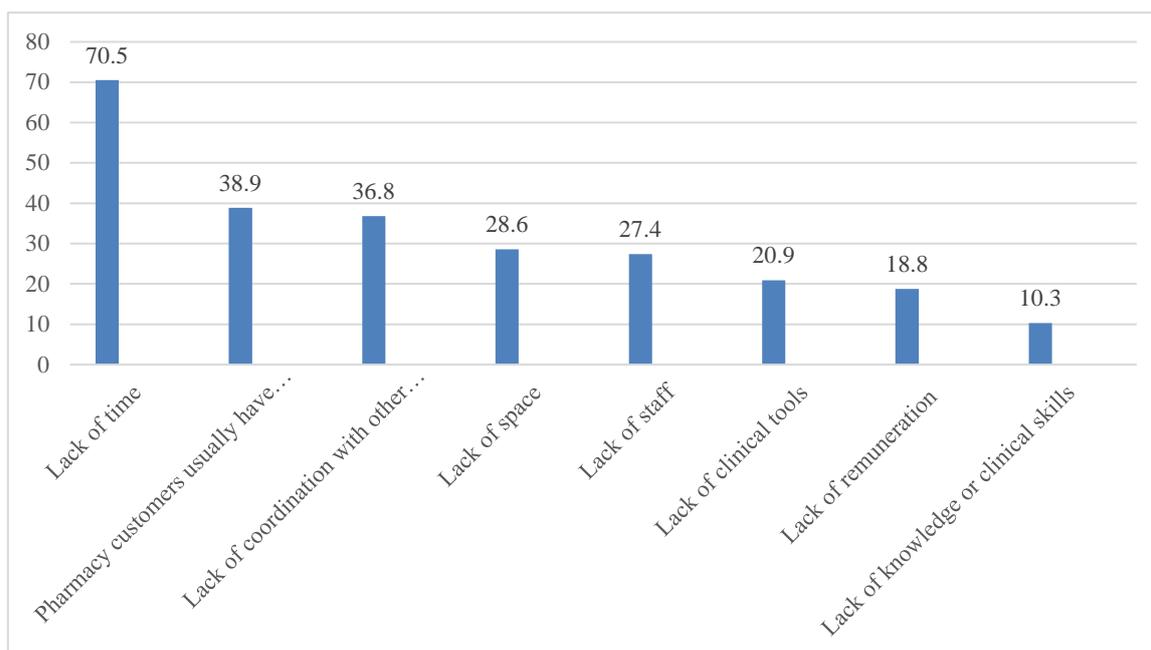


Fig.2: Limitations for the provision of public health services in the practice

Neither gender, age, higher education, nor years of experience affected the pharmacists' involvement in smoking cessation counseling ($p>0.05$). On the other hand, community pharmacists working less than 4 hours per day counseled 3.55 times more on smoking cessation (OR=3.55; P value=0.041) (Refer to table 2).

Table 2: Correlation of smoking cessation counseling with community pharmacist characteristics

Smoking cessation	Not involved	Involved	OR; CI; Pvalue
Gender			
Female	70(53%)	62(47%)	1.353; 0.757-2.418; 0.308
Male	56(54.9%)	46(45.1%)	
Age			
18-30	57(58.2%)	41(41.8%)	1.275;0.390-4.174;0.688
31-40	27(43.5%)	35(56.5%)	1.74;0.651-4.649;0.269
41-50	24(55.8%)	19(44.2%)	1.080;0.411-2.834;0.876
Above 50	18(58.1%)	13(41.9%)	
Higher education degree			
None	62(49.2%)	64(50.8%)	1.641;0.809-3.330;0.17
Pharm D	37(60.7%)	24(39.3%)	0.901;0.403-2.016;0.8
Masters+PhD	27(57.4%)	20(42.6%)	
Years of experience			
<2	12(57.1%)	9(42.9)	0.858;0.248-2.969;0.809
2-5	42(63.3%)	24(66%)	0.637;0.237-1.718;0.373
5-10	18(38.3%)	29(61.7%)	1.793;0.758-4.239;0.184
>10	54(54%)	54(46%)	
Working hours			
<4	6(35.3%)	11(64.7%)	3.55;1.051-11.987;0.041
4-8	78(57.4%)	58(42.6%)	0.831;0.445-1.551;0.561
>8	42(51.9%)	39(48.1%)	

Pharmacists having 2 to 5 years of working experience in community pharmacy were less likely to counsel patients on contraception use compared to those with more than 10 years of experience (OR=0.351; P value=0.044) (Refer to table 3).

Table 3: Correlation of counseling on contraceptives use with the community pharmacist characteristics

Contraceptives use	Not involved	Involved	OR; CI; P value
Gender			
Female	70(53%)	62(47%)	1.188;0.67-2.106;0.555
Male	56(54.9%)	46(45.1%)	
Age			
18-30	53(54.1%)	45(45.9%)	2.706;0.802-9.125;0.109
31-40	33(53.2%)	29(46.8%)	1.466;0.547-3.924;0.447
41-50	22(51.2%)	21(48.8%)	1.313;0.502-3.434;0.579
Above 50	18(14.3%)	13(41.9%)	
Higher education degree			
None	64(50.8%)	62(49.2%)	1.486;0.740-2.984;0.266
Pharm D	35(57.4%)	26(42.6%)	1.081;0.49-2.386;0.846
Masters+PhD	27(57.4%)	20(42.6%)	
Years of experience			
<2	13(61.9%)	8(38.1%)	0.322;0.089-1.158;0.083
2-5	40(60.6%)	26(39.4%)	0.351;0.126-0.973;0.044
5-10	22(46.8%)	25(53.2%)	0.880;0.376-2.061;0.768
>10	51(51%)	49(49%)	
Working hours			
<4	9(52.9%)	8(47.1%)	0.988;0.312-3.124;0.983
4-8	79(58.1%)	57(41.9%)	0.658;0.353-1.228;0.189
>8	38(46.9%)	43(53.1%)	

Female community pharmacists were 2 times more involved in weight management process than males (OR=2.24; P value=0.022). Moreover, pharmacists with less than 2 years of experience in community pharmacy were less likely to counsel patients on weight management compared to those with more than 10 years of experience (OR=0.076; P value=0.00) (Refer to table 4).

Table 4: Correlation of weight management counseling with the community pharmacist characteristics

Weight management	Not involved	Involved	OR; CI; P value
Gender			
Female	32(24.2%)	100(75.8%)	2.239;1.123-4.464;0.022
Male	33(32.4%)	69(67.6%)	
Age			
18-30	35(35.7%)	63(64.3%)	0.923;0.236-3.602;0.908
31-40	14(22.6%)	48(77.4%)	0.972;0.311-3.039;0.961
41-50	7(16.3%)	36(83.7%)	1.518;0.475-4.849;0.481
Above 50	9(29%)	22(71%)	
Higher education degree			
None	37(29.4%)	89(70.6%)	1.265;0.571-2.805;0.563
Pharm D	14(23%)	47(77%)	2.221;0.846-5.833;0.105
Masters+PHD	14(29.8%)	33(70.2%)	
Years of experience			
<2	15(71.4%)	6(28.6%)	0.076; 0.018-0.323; 0.00
2-5	20(30.3%)	46(69.7%)	0.525;0.166-1.656;0.271
5-10	9(19.1%)	38(80.9%)	1.246;0.434-3.576;0.683
>10	21(21%)	79(79%)	
Working hours			
<4	3(17.6%)	14(82.4%)	3.074;0.632-14.963;0.164
4-8	43(31.6%)	93(68.4%)	0.799;0.386-1.652;0.544
>8	19(23.5%)	62(76.5%)	

4. DISCUSSION

The pharmacy profession, due to several factors, has changed from being simply a drug-centered approach to a patient-centered one. Nowadays, several studies have proved that pharmacists are highly involved in the public health section. The aim of the current study was to highlight this role among Lebanese pharmacists.

The studied sample reflected the community pharmacists in Lebanon since the demographic characteristics were similar to the study done by Aline Hajj et al. (2018) on the Lebanese community pharmacists. In fact, 56.4% of the interviewed pharmacists were females, 53.8% hold only a bachelor degree in pharmacy, and 42.7% have more than 10 years of working experience in community pharmacy.

Counseling on smoking cessation was affected by the community pharmacist's working hours. Pharmacists working fewer hours do not experience work stress and anxiety, which offers them a flexible work environment to produce better outcomes.

Contraceptives counseling was only affected by years of working experience similar to Sewunet Admasu Belache et al. study (Belachew, 2017). This can be elucidated by the fact that pharmacy professionals who work for many years encounter more cases requiring emergency contraceptives relatively to less experienced ones. Moreover, they update themselves based on the inquiries from the clients. Furthermore, the years of experience give them the chance to participate in different workshops and training about family planning and emergency contraceptives use.

As for the weight management counseling, it was affected by the gender of the pharmacist. A study done by Dessalegn Asmelashe Gelayee et al. (2017), similarly the current one, showed that female pharmacists were significantly more involved than males in providing health promotion services on nutritional and physical activity related to weight management. In addition, weight management counseling was also affected by the pharmacist's years of experience. In fact, Daniel Asfaw Erku et al (2017) mentioned that a relatively higher level of involvement in public health services is seen with pharmacy professionals having more than 5 years of experience in practice settings.

In the current study, 70.5 % of the respondents emphasize on "lack of time" as a barrier that hindered the provision of public health services. Several studies showed similarity with this finding. As an example, in a study done by O'Donnell DC et al (2006), in Texas, lack of time was one of the main barriers behind not offering counseling tips for obese patients. Another study by Claire E Eades (2011) noted that lack of time was the main barrier to health promotion activities. In fact, since community pharmacists handle many daily tasks as mentioned by the WHO that include: processing of prescriptions, care of patients, monitoring of drug utilization, compounding of medicines, and many others, adding public health services leads to additional lack of time.

This study assessed the involvement of Beirut community pharmacists in selected public health promotion. Consequently, other public health services should be accessed in order to have a larger view on the pharmacists practice. Moreover, other Lebanese areas should be included in the assessment since urban, suburban and rural communities have different characteristics that may influence the results.

5. CONCLUSION

The present study highlighted the benefits of the extending role of community pharmacists in public health provision. Even though, the results endorsed the positive outcomes regarding the level of involvement of community pharmacists in weight management, hypertension, and diabetes counseling, a methodology should be settled and adopted while providing public health awareness in order to conserve the privacy of the patients and reach expected outcomes.

As a consequence, continuing education programs are essential to develop the skills and knowledge of the pharmacist necessary for health promotion activities.

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