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Original Research

Attitudes towards continuous professional development: a study of pharmacists in Lebanon

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Abstract

Objective: To investigate the views and assess motivation, attitudes of pharmacists in Lebanon towards mandatory continuous education (CE), its transition to Continuous Professional Development (CPD), and identify barriers to participation in CPD.

Methods: A cross-sectional observational study, conducted between February and May 2017, enrolled 591 pharmacists. The questionnaire used in this study was developed after an extensive literature review and based on previous similar studies in different countries.

Results: Half of the pharmacists who completed the questionnaire agreed that all the factors that were mentioned in the questionnaire motivated completing CPD, whereas 55.4% felt confident that CPD meets their needs. 78.4% felt confident in their abilities to assess what they have learned. 71.6% felt confident in their abilities to assess what additional CPD activity may be necessary. The majority of the pharmacists agreed that accessibility of group learning activities (location/distance) (69.6%), job restrictions (76.3%) and lack of time (80.6%) were the most essential barriers against participation in CPD. Motivation was significantly and positively correlated with attitude (r= 0.718), but negatively correlated with barriers (r= -0.243). Attitude was significantly and negatively correlated with barriers (r= -0.120).

Conclusion: Our findings contribute to informing the forward pathway for the profession. Attitude and motivation to CPD were positive in this study. Accessibility of group learning activities due to distance and location, job restrictions and lack of time were the major barriers to participation in CPD. Potential solutions can be sought to address these issues.

Keywords

Attitude of Health Personnel; Clinical Competence; Education, Pharmacy, Continuing; Pharmacists; Surveys and Questionnaires; Lebanon

INTRODUCTION

Continuing professional development (CPD) has become an increasingly significant attribute of most professions, especially those associated with health care.[1] The International Pharmacy Federation declared: "Maintaining competence throughout a career during which new and challenging professional responsibilities will be encountered is a fundamental ethical requirement for all health professionals".[2]

CPD is a lifelong learning process that needs continuous pharmacist proficiency through maintenance and enrichment of skills, performance and knowledge.[2,3] It aids health care practitioners to remain up to date and competent, thus, fit to practice.[4] CPD involves any education that helps pharmacists increase their skills, counting any continuing education (CE) whether it's workplace-based or distance learning or electronic learning (1). The role of the CPD process is to incite each health care professional into keeping up with the changes in practice and to ensure that the public confidence in their services they offer are being retained and developed.[1] Core elements of CPD include a pharmacist's self-directed, structured and outcomes-oriented activities for practice-based learning.[5] This continuing process is based on the 4-stage Kolb learning cycle of identification, planning, implementation/action, evaluation.[6] CPD is a principal element within a clinical governance context of professional accountability, in the provision of quality service, in the management and reduction of risks, and the continuous enhancement of standards.[1] Most countries with a CE or CPD system request all registered participants to demonstrate annual activity participation (lectures, seminars, congresses, conferences).[7]

Mandatory CPD requirements were implemented in the UAE[8] in November 2014 and in Qatar[9] in March 2016, whereas other countries such as Egypt are assessing the degree of readiness and acceptance for CPD in the healthcare sector.[10]

In Lebanon, there were no requirements of licensure prior to 2011. Stimulated by developments and initiatives in other countries, the Pharmacy Board of Lebanon (OPL) issued standards for mandatory CE in November 2011, that took effect actually in January 2014.[11] As a result, pharmacists practicing in Lebanon are required to document at least 15 credits of CE activity annually, of which at least 5 should be "live" CE.[11] Each pharmacist is to submit his/her records for review and monitoring. Failure to meet these standards could lead to disciplinary action up to license suspension. In addition, the OPL is operating in the meantime towards transitioning from CE to CPD.

In many countries, the evolution to a CPD approach and the use of a learning portfolio for documentation and reflection is fairly new for pharmacists. To date there is little

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published evidence on the impact of such changes and the pharmacists' views and attitudes towards CPD.[12] In 2001, a study conducted in Northern Ireland determined the perceptions of pharmacists on CPD. Barriers to participation were identified as lack of time, remuneration and lack of understanding of CPD.[13] Another study carried out on a small number of English community pharmacists (n=21) revealed that they needed additional support since they were not fully engaging in CPD.[14] A further study conducted on Scottish pharmacists' views and attitudes to CPD revealed four associated factors: "having positive support in the workplace, having access to resources and meeting learning needs, having confidence in the CPD process and motivation to participate in the CPD process". Hospital pharmacists reported having more confidence in the CPD process, while community pharmacists were identified as the pharmacy sector that needed most support regarding ability in participation.[4] In the United States, a study entitled 'The 5-state CPD pharmacy pilot program' was the first broad-based study evaluating the role of CPD in the pharmacy sector. Its objectives were to find out whether a structured educational intervention would aid pharmacists' utilization of a CPD approach as well as to assess its effectiveness and feasibility for pharmacists.[15]

In Lebanon, to the best of our knowledge, to date there is no published evidence regarding pharmacists' views and attitudes towards CE and its transitioning to CPD, particularly those offered by the OPL. In many countries, collection of these views and attitudes in the pharmacy profession has been commonly achieved using questionnaire methodology.[4] Via this means, studies have found that pharmacists agree with the notion of CPD.[13,16] By recognizing areas and identifying sectors where pharmacists' motivation to CPD is high, as well as pinpointing major barriers to participation, possible solutions can be sought for sectors of practice where views and attitude to CPD are less positive.[4]

The primary aim of the present study is to investigate the views and attitudes of pharmacists in Lebanon towards mandatory CE - particularly those offered by OPL- and its transition to CPD. Secondary outcomes include studying the barriers to participation in CPD.

METHODS

Study Design

This is a cross-sectional observational study, using a proportionate random sample of Lebanese pharmacists working in pharmacies from all districts of Lebanon. It was conducted between February and May 2017. A list of pharmacies was provided by the Order of Pharmacists in Lebanon (OPL). Pharmacists working on Lebanese premises were included in the study, whereas pharmacists living outside Lebanon were excluded. The questionnaire was distributed to 800 pharmacists out of a total of 7391 pharmacists living in Lebanon; 591 (73.87%) pharmacists filled and returned the questionnaire.

A sample of 525 pharmacists was targeted to allow for adequate power for bivariate analyses to be carried out. This minimal sample size was obtained by using a total number of registered pharmacists in OPL of 8500, a 39% expected frequency of pharmacists' confidence that the CPD meets their needs[1], and a 5% confidence limits.[17]

Study Procedure

The questionnaire used in this study was developed after an extensive literature review and based on previous similar studies in different countries.[13,14,16,18-20] Two links, one in English and one in Arabic, were sent via emails as well as via the OPL push notification application simultaneously every 2 weeks. Each pharmacist filled the online questionnaire once.

The questionnaire consisted of 9 parts (A to I), including information about the sociodemographic characteristics of the sample, factors affecting motivation towards CPD, the types of CPD used by the pharmacist, the causes behind using the CPD types mentioned before, and the evaluation of CPD (offered by OPL). Parts (B to E) were skipped by pharmacists who were not involved in practicing CPD yet.

Moving on, the questionnaire comprised questions concerning the attitudes of pharmacists to different elements of CPD (Identification, Planning, and Implementation). Furthermore, the questionnaire assessed the barriers to participation in CPD activities (part G). Finally, the questionnaire asked about future CPD in terms of abiding regulations offered by OPL (part H) and about the types of CPD that were used by the pharmacist (part I).

Motivation, attitudes and barriers scores

Pharmacists' motivation score was calculated using 5 questions by adding the scores for each question, with each question scoring 1 for strongly disagree and 5 for strongly agree. The questions that formed the motivation score were "I feel confident that CPD meets my needs", "I feel confident that my CPD is preparing me for practice development", "I have sufficient time to achieve my CPD goals that are mandated by OPL", "I have sufficient resources (computer access, internet access, 3G/Wi-Fi access, conferences) to achieve my CPD goals" and "I have sufficient enthusiasm to achieve my CPD goals". The motivation score ranged from 5 to 25, with a higher score indicating more motivation. The attitude score was calculated by adding the score for the following questions: "I feel confident in my ability to assess what I have learned", "I feel confident in my ability to assess what additional CPD activity may be necessary", "I feel confident in my ability to assess the benefits of my practice", "I feel confident in my ability to identify my own learning needs", "I need some help in identifying my learning needs", "I am fully aware of resources", "I am confident about my ability to access resources", "I have support (encouragement and sufficient time) in my workplace to carry out my CPD plans" and "I have adequate access to suitable CPD resources". The attitude score ranged from 9 to 45, with a higher score indicating a better/more positive attitude for CPD.

Concerning the barriers score, the same calculation method was used for the following questions: "Accessibility of group learning activities (location/distance)", "Job constraints (restrictions)", "Lack of time", "Cost of participation", "Lack of relevant learning opportunities", "Uninteresting subjects or topics", "Lack of quality learning

Table 1. Sociodemographic characteristics of the participants.

Demographics	Percentages	Effective numbers
Age (years)		
20-30	42.4	251
31-40	28.7	170
41-50	18.2	108
51-60	9	53
>60	1.7	10
Gender		
Females	63.2	374
Males	36.8	217
Marital status		
Single	37.5	222
Married	61.3	362
Divorced	0.8	5
Widowed	0.3	2
Pharmacy degree		
BS pharmacy	45.9	271
Pharm.D.	28.4	168
Masters	16.6	98
PhD	9.1	54
Current primary site of practice		
Community pharmacy	58.1	343
Hospital pharmacy	7.4	44
Medical representative	8.8	52
University teacher	3.5	21
Industry	2.0	12
Laboratory	1.0	6
Others	19.1	113
Monthly salary		
<1,200,000 L.L	21.3	126
1,200,000-1,800,000 L.L	32.4	191
>1,800,000 L.L	46.3	274
Practice experience (years)		
<15	73.5	434
15-25	19.8	117
>25	6.8	40
Place of living		
Beirut	22.6	134
Mount Lebanon	39.2	237
North Lebanon	10.3	61
South Lebanon	16.2	96
Bekaa	9.4	56
Outside Lebanon	2.2	13
Availability of computer/laptop		
No	4.5	27
Yes	95.5	564
Internet access		
No	9.2	537
Yes	90.8	54
Practiced CPD before		
No	30.7	181
Yes	69.3	410

activities", "Family constraints (restrictions)", "Subjects/ Topics are too specialized" and "Low personal priority of learning in relation to other activities". The barriers score ranged between 10 and 50, with a higher score indicating a higher number of barriers.

Statistical Analysis

Data was analyzed using the Statistical Package of the Social Sciences version 23. Descriptive statistics were calculated for all study variables. This includes the mean and standard deviation for continuous measures, counts and percentages for categorical variables. The Chi-square test was used for bivariate analysis of categorical variables, whereas Student test were used for comparison of means between two groups. ANOVA and Kruskal-Wallis tests were used to compare between three groups or more. Pearson correlation coefficient was used to correlate between quantitative variables. Bonferroni adjustment was used for ANOVA post hoc tests of between groups comparison. Statistical significance was set at $p<0.05$.

Table 2. Description of different variables among pharmacists practicing continuous professional development (CPD).

Variables	Practicing CPD
Age	
20-30	53.8%
31-40	74.1%
41-50	85.5%
51-60	90.2%
>60	87.5%
Gender	
Male	67.5%
Female	70.4%
Marital status	
Single	57.1%
Married	77.3%
Divorced	40.0%
Widowed	100%
Pharmacy degree	
BS pharmacy	64.9%
Pharm D	71.7%
Masters	69.8%
PhD	83.0%
Primary current site of practice	
Community pharmacy	70.6%
Hospital pharmacy	77.3%
Medical representatives	55.1%
University teacher	70.0%
Industry	81.8%
Laboratory	66.7%
Other	67.0%
Monthly salary	
<1,200,000 (<800) USD)	56.3%
1,200,000-1,800,000 (800-1200 USD)	69.7%
>1,800,000 (> 1200 USD)	74.9%
Place of living	
Beirut	70.2%
Mount Lebanon	72.1%
North Lebanon	65.0%
South Lebanon	74.5%
Bekaa	50.9%
Outside Lebanon	1.0%

RESULTS

The sociodemographic characteristics of the whole sample are summarized in Table 1, whereas the description of pharmacists practicing CPD can be found in Table 2. It is important to note that 69.3% of the respondents practiced CPD in the past.

Approximately half of the pharmacists that completed the questionnaire agreed that all the factors that were mentioned in the questionnaire motivate CPD, whereas 55.4% agreed that they feel confident that CPD meets their needs. In addition, 62% agreed that they feel confident that CPD is preparing them for practice development, whereas 34.8% agreed that they have sufficient time to complete required CPD credit hours. 76% agreed that they have sufficient resources (computer access, internet access, conferences) to achieve their CPD goals. 57.9% agreed that

Table 3. Views of pharmacists on factors affecting motivation towards continuous professional development (CPD).					
	Strongly agree	**Agree**	**Neutral**	**Disagree**	**Strongly disagree**
I feel confident that CPD meets my needs	13.6	41.8	26.6	13.2	4.8
I feel confident that CPD is preparing me for practice development	15.5	46.5	23.4	9.7	4.9
I have sufficient time to achieve my CPD goals that are fixed by OPL	6.7	28.1	25.8	25.3	14
I have sufficient resources (computer access, internet access, conferences) to achieve my CPD goals	21.5	54.5	14.3	6.7	3.0
I have sufficient enthusiasm to achieve my CPD goals	16.0	41.9	24.3	11.1	6.7
Challenges in my job motivate me to achieve my CPD goals	14.0	36.0	27.7	14.4	7.9
Live conferences with colleagues motivate me to achieve my CPD goals	16.7	43.6	23.0	10.4	6.3

they have sufficient enthusiasm to achieve their CPD goals (table 3).

Bivariate analysis results for factors affecting the pharmacist's motivation towards CPD showed that a significantly higher percentage of pharmacists aged between 20-30 years thought that available CPD programs did not meet their needs (57.1%), leads to their development (61.9%), had enough time to achieve CPD (43.3%), had sufficient resources (69.2%) compared to all other age groups. A significantly higher percentage of pharmacists aged between 31-40 years strongly disagreed that they had sufficient enthusiasm (51.7%) compared to the other age groups.

A significantly higher percentage of females agreed that they have enough time to achieve their CPD compared to their male counterparts (62.1% vs 37.9%; p=0.043; chi-square). It is of note that no significant difference was found for these 2 variables between males and females concerning the fact that CPD meets their needs, leads to their development, had sufficient resources or sufficient enthusiasm.

A significantly higher percentage of community pharmacists strongly disagreed that CPD meets their needs (42.9%) and leads to their development (52.4%) compared to all other sectors of the pharmacy profession (Table 4).

The most used CPD activities were the live activities (21.6%), computer/internet based activities (47.7%), and interactive workshops (21.3%). Almost 60% of the pharmacists agreed they use the type of CPD because it is at no cost. In addition, more than 70% of them agreed they had easy access to print/online material or because of their interest in learning about a specific topic regardless of the venue (Table 5).

Seventy-eight percent agreed that they feel confident in their abilities to assess what they have learned. 71.6% agreed that they feel confident in their abilities to assess what additional CPD activity may be necessary. 77.6% agreed that they feel confident in their abilities to assess the benefits of their practice. 81.2% agreed that they feel confident in their abilities to identify their own learning needs. 76% agreed that they are fully aware of resources available to them to address their CPD requirements. 76.7 agreed that they are confident about their abilities to access resources (computer access, internet access, 3G/Wi-Fi access, conferences) to address their CPD requirements and 69.6% agreed that they have adequate access to suitable CPD resources (Table 6).

The majority of the pharmacists agreed that accessibility of group learning activities (location/distance) (69.6%), job restrictions (76.3%) and lack of time (80.6%) were the most essential barriers to participation in CPD (table 7).

We calculated the reliability of each scale to assess the quality of our data. We obtained high Cronbach alphas for

Table 4. Bivariate analysis of different variables and views of pharmacists on factors affecting motivation towards continuous professional development (CPD).												
	CPD meets needs						**CPD leads to development**					
	Strongly agree	**Agree**	**Neutral**	**P-value**	**Strongly disagree**	**P-value**	**Strongly agree**	**Agree**	**Neutral**	**Disagree**	**Strongly disagree**	**P-value**
Age												
20-30 years	27.1%	30.4%	39.1%	40.4%	57.1%	0.018	28.4%	31.8%	42.6%	31.0%	61.9%	<0.001
31-40 years	28.8%	27.6%	31.3%	42.1%	28.6%		26.9%	26.9%	33.7%	54.8%	23.8%	
41-50 years	20.3%	27.6%	19.1%	14.0%	14.3%		19.4%	29.9%	14.9%	7.1%	14.3%	
51-60 years	16.9%	11.6%	9.6%	1.8%	0.0%		19.4%	10.0%	7.9%	2.4%	0.0%	
>61 years	6.8%	2.2%	0.9%	1.8%	0.0%		6.0%	1.5%	1.0%	4.8%	0.0%	
Gender												
Male	37.3%	32.0%	39.1%	50.9%	33.3%	0.139	35.8%	33.8%	38.6%	57.1%	28.6%	0.063
Female	62.7%	68.0%	60.9%	49.1%	66.7%		64.2%	66.2%	61.4%	42.9%	71.4%	
Primary current site of practice												
Community pharmacy	71.2%	59.1%	56.5%	56.1%	42.9%	0.017	68.7%	59.2%	54.5%	52.4%	52.4%	0.045
Hospital pharmacy	10.2%	8.8%	8.7%	3.5%	9.5%		11.9%	7.0%	10.9%	2.4%	9.5%	
Medical representative	1.7%	6.6%	10.4%	12.3%	14.3%		1.5%	8.5%	9.9%	14.3%	4.8%	
University teacher	8.5%	5.0%	0.9%	0.0%	0.0%		7.5%	4.5%	2.0%	0.0%	0.0%	
Industry	1.7%	1.1%	5.2%	0.0%	4.8%		1.5%	0.5%	5.0%	4.8%	4.8%	
Laboratory	1.7%	0.0%	0.9%	1.8%	0.0%		1.5%	0.0%	1.0%	2.4%	0.0%	
Other	5.1%	19.3%	17.4%	26.3%	28.6%		7.5%	20.4%	16.8%	23.8%	28.6%	

Table 5. Causes of using the above mentioned continuous professional development (CPD) types					
	Strongly agree	**Agree**	**Neutral**	**Disagree**	**Strongly disagree**
Low or no cost	16.3	43.6	31.4	6.6	2.2
Effective advertising	7.4	38.0	41.9	9.7	3.0
Networking and socializing opportunities	6.7	47.4	36.5	6.7	2.7
Easily accessed print or online material	16.7	55.0	22.3	3.4	2.7
Interest in learning about topic regardless of the venue	19.0	55.3	17.8	5.3	2.6
Offered during a conference already attending	12.5	46.3	32.8	5.6	2.7

all scales as follows: motivation scale (0.858), attitude scale (0.862) and barriers scale (0.797). Based on fairly adequate internal consistency, we believe that the findings were relatively reliable.

The bivariate analyses between the different variables and barriers to participation in CPD showed that a significantly higher percentage of pharmacists aged 20-30 years (58.3%) disagreed that family constraints might be a barrier to participation in CPD (p=0.005), with no significant difference between age and other barriers. Furthermore, no significant difference was found between gender and the current practice site with all barriers (online Appendix).

The bivariate analyses showed that motivation was significantly and positively correlated with attitude (r=0.718; p<0.001), but negatively correlated with barriers (r= -0.243; p<0.001), years of experience (r= -0.201; p<0.001) and age (r=-0.236; p<0.001). A significantly higher mean for the motivation score was found in males (13.32) compared to females (12.44) (p=0.036). Neither the marital status nor the monthly salary were significantly associated with the motivation scale (p=0.465 and p=0.889, respectively).

The bivariate analyses showed that attitude was significantly and negatively correlated with barriers (r= -0.120; p=0.021), years of experience (r= -0.144; p=0.004) and age (r=-0.175; p<0.001). A significantly higher mean attitude score was found in males (21.45) compared to females (20.08) (p=0.018). Neither the marital status nor the monthly salary were significantly associated with the attitude scale (p=0.484 and p=0.238, respectively).

The bivariate analyses showed that the barriers score was not significantly correlated with age (r=0.001; p=0.988), the years of experience (r=0.002; p=0.966), gender (p=0.648), monthly salary (p=0.997) but was significantly correlated with the marital status (p=0.021).

No significant difference was found between all sectors of practice concerning attitude and barriers (p=0.209 and p=0.141, respectively). Regarding motivation, a higher motivation score was found in community pharmacists (13.21) compared to their hospital counterparts (10.91) (p=0.015). No significant difference was found between other groups (community vs medical representative (p=0.111) and hospital vs medical representative (p=0.069)).

DISCUSSION

Attitude and motivation have shown to be essential elements in CPD involvement.[21] Also, in the past, the aspect regarding pharmacists' motivation for participating in CPD has been studied as a key factor to learning.[4] Within the pharmacy profession, as well as in other healthcare professions' CPD practices, the magnitude of motivation has been acknowledged.[21] Our results showed that the identification of learning needs was the constituent of the CPD process the majority of pharmacists felt at ease with.[1] Confidence in their capability to recognize their individual training needs was high.[1] These findings are in agreement with a study conducted on Scottish pharmacists' views and attitudes towards CPD[1], although it contradicts previous findings, which state that "general medical practitioners' insights into their own educational needs were also poor".[15] One explanation is that means for enabling pharmacists to identify their own learning needs proactively ought to be further developed and made accessible.[1] Generally, in our study, motivation and attitude were positive. These findings are in agreement with a study carried out on Texan pharmacists' views, attitudes and preferences related to continuing pharmacy education that revealed approximately 83% of respondents (n=161, response rate 31%) found that currently available CE programs met their educational needs.[22] However, a significantly higher percentage of community pharmacists strongly disagreed that CPD meets their needs and leads to their development compared to all other sectors of the

Table 6. Attitudes of pharmacists to different elements of continuous professional development (CPD).					
	Strongly agree	**Agree**	**Neutral**	**Disagree**	**Strongly disagree**
I feel confident in my ability to assess what I have learned	17.0	61.4	15.8	4.2	1.6
I feel confident in my ability to assess what additional CPD activity may be necessary	16.8	54.8	19.8	6.1	2.6
I feel confident in my ability to assess the benefits of my practice	19.8	57.8	15.6	5.1	1.6
I feel confident in my ability to identify my own learning needs	21.7	59.5	16.0	1.5	1.3
I need some help in identifying my learning needs	8.2	36.0	31.4	18.1	6.3
I am fully aware of resources (computer access, internet access, 3G/Wi-Fi access, conferences) available to me to address my CPD requirements	20.8	55.2	16.4	5.3	2.3
I am confident about my ability to access resources (computer access, internet access, 3G/Wi-Fi access, conferences) to address my CPD requirements	21.5	55.2	16.6	4.7	1.9
I have support (encouragement and sufficient time) in my workplace to carry out my CPD plans	7.7	35.3	30.8	14.6	11.6
I have adequate access to suitable CPD resources (computer access, internet access, 3G/Wi-Fi access, conferences)	16.9	52.7	17.1	7.5	5.8

Table 7. Barriers to participation in continuous professional development (CPD).

	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
Accessibility of group learning activities (location/distance)	25.3	44.3	19.2	10.0	1.2
Job constraints (restrictions)	35.1	41.2	15.5	6.7	1.4
Lack of time	40.6	40.0	12.9	5.2	1.2
Cost of participation	6.1	19.7	41.1	24.1	9.0
Lack of relevant learning opportunities	11.1	29.2	40.5	16.9	2.3
Uninteresting subjects or topics	12.7	27.3	34.7	22.1	3.1
Lack of quality learning activities	10.9	26.0	38.8	19.3	5.0
Family constraints (restrictions)	17.3	30.4	26.7	18.1	7.5
Subjects/ topics are too specialized	7.3	20.6	39.8	26.0	6.3
Low personal of learning in relation to other activities	5.1	20.2	35.6	24.8	14.3

pharmacy profession. One explanation for this could be that community pharmacists are not generally involved in teams, and usually work in isolation compared to their hospital and primary care counterparts.[23] Thus the CPD resources and peer support may not be readily available to this sector.[4] Another explanation could be the frustration that community pharmacists feel towards the pace and intensity of pharmacy practice and how this negatively affects their capability to fully embrace CPD by incorporating learning into their practice.[12]

Within the study, two scores were collated; a motivational score which measured overall motivation towards CPD; and an attitudinal score which measured confidence, ability and support required taking part in the CPD cycle and the reflection process.[1] Our results show that motivation was significantly and positively correlated with attitude. This finding is in agreement with previous studies suggesting that a positive attitude towards CPD is a motivating aspect for efficient performance.[24] In addition, by evaluating the motivational and attitudinal median scores, our results show a significant difference between hospital and community pharmacists in the collated motivational median scores but not in the attitudinal score, with the latter proving the more motivated group. This finding is in opposition with other studies where primary care and hospital pharmacists tended to score higher than their community counterparts.[1] However, this may be due to the small number of response from hospital pharmacists encountered in our study. Thus, although community pharmacists' motivation scores were statistically higher than hospital pharmacists, the overall practical significance of these findings is to be limited. The real differences in the scores need to be assessed using larger sample size studies from both sectors in order to tell whether subgroups of highly or poorly motivated pharmacists may explain the overall findings.[1] No significance was found in other sectors of practice regarding motivation or attitude.

According to the majority of respondents, our results show that the essential barriers to participation in CPD include lack of time, difficulties in accessing group learning activities due to distance and job restrictions. Needless to say, these findings re-iterate results shown in previous studies.[16,18,20,25] In addition, our results show that attitude and motivation were significantly and inversely correlated with barriers to participation in CPD.

In previous studies, the lack of time for CPD[18,26,27] and a high workload[18] were the most commonly reported barriers to participation in CPD. Moreover, lack of information technology support[28] and type and location of available courses[26] have also been other commonly reported resource barriers to CPD. An important element affecting pharmacists' opinions of CPD was the ease of access to CPD resources.[14,29] Creating networks where pharmacists can talk about their CPD needs and access resources to reach their learning needs may prove helpful.[4]

In our study, the fact that most pharmacists perceived insufficient time to attain their CPD goals was highlighted.[1] Moreover, in England, a study found that pharmacist respondents recognized that they believed that a fraction of working time could be devoted to CPD activities (20). Other healthcare professionals working in medicine and dentistry have defined learning time 'protected' as their model to provide additional CPD support.[1] The finding in our study that respondents believed they did not have enough time to achieve their CPD goals suggests a similar need, although the idea of 'protected time' is not likely to be accepted by the workplaces where registered pharmacists are employed.[1]

Our results show that motivation and attitude were significantly and negatively correlated with years of experience and age. This finding, not surprisingly, is in line with earlier studies where it was found that older pharmacists were significantly less motivated towards participation in CPD than their younger colleagues.[18,27]

Higher significant mean attitude and motivation scores were found in males compared to females, the latter proving to be less motivated and to have less confidence in their ability to participate in CPD. This contradicts previous studies where females carried out significantly more hours of continuing education and CPD[16,18] or where no significant differences were found between men and women regarding motivation.[1] The fact that our results show a higher motivational and attitudinal score in males versus females could be attributed to different sample sizes and sampling methods to formerly published reports.[1]

The most used CPD activities were live in person ones, computer/internet based ones, and interactive workshops. This is due to the fact that these activities carry no cost and are easy to access.

Limitations

Our study suffers from some limitations. The sample size is small. A selection bias is possible because some areas were difficult to reach especially the remote ones. Furthermore, it was not possible to compare the characteristics of responders and non-responders. Additionally, nonobjective understanding of questions is possible, as in all

questionnaire-based surveys. An information bias is also possible since the use of a questionnaire in any population may not always be accurate: problems in question understanding, recall deficiency and over or under evaluating symptoms may still be possible.

CONCLUSIONS

Views and attitudes of Lebanese pharmacists towards continuing professional development were assessed in our study, along with their motivation level. Also, the barriers and obstacles to participation in CPD that they encounter while trying to further their education were identified. To date, there are limited data on Lebanese pharmacists' views, attitudes and barriers to participation in CPD; the information from our study contributes to informing the forward pathway for the profession. Generally attitude and motivation to CPD were positive in this study. Moreover, it is apparent that there are different views and attitudes towards participation in CPD among sectors of practice. However, these issues necessitate further study at a larger scale. A large number of pharmacists opted not to fill the questionnaire. Older pharmacists and female pharmacists appear to be the sectors requiring most support to increase not only their motivation to CPD but also their confidence and ability in participating in CPD. Accessibility of group learning activities due to distance and location, job restrictions and lack of time have shown to be the major barriers to participation in CPD. By acknowledging these findings, potential solutions can be sought where views and attitude to CPD are less positive.

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CONFLICT OF INTEREST

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References

1. Power A, Johnson BJ, Diack HL, McKellar S, Stewart D, Hudson SA. Scottish pharmacists' views and attitudes towards continuing professional development. Pharm World Sci. 2008;30(1):136-143. doi: 10.1007/s11096-007-9156-5
2. International Pharamceutical Federation. Statement of professional standards on continuing professional development. The Hague, The Netherlands. Available at: https://www.fip.org/www/uploads/database_file.php?id=221&table_id= (accesed Sep 9, 2017).
3. American College of Clinical Pharmacy, Burke JM, Miller WA, Spencer AP, Crank CW, Adkins L, Bertch KE, Ragucci DP, Smith WE, Valley AW. Clinical pharmacist competencies. Pharmacotherapy. 2008;28(6):806-815. doi: 10.1592/phco.28.6.806
4. Power A, Grammatiki A, Bates I, Mc Kellar S, Johnson BJ, Diack HL, Stewart D, Hudson SA. Factors affecting the views and attitudes of Scottish pharmacists to continuing professional development. Int J Pharm Pract. 2011;19(6):424-430. doi: 10.1111/j.2042-7174.2011.00135.x
5. Rouse MJ. Continuing professional development in pharmacy. J Am Pharm Assoc (2003). 2004;44(4):517-520. doi: 10.1331/1544345041475634
6. Kolb D. Experiential Learning: turning experience into learning. New Jersey: Prentice Hall; 1984.
7. Wilbur K. Continuing professional pharmacy development needs assessment of Qatar pharmacists. Int J Pharm Pract. 2010;18(4):236-241. doi: 10.1111/j.2042-7174.2010.00034.x
8. Continuing Professional Development (CPD) Guideline, Health Regulation Department, Dubai Health Authority. Available at: https://www.dha.gov.ae/Documents/Regulations/Guidelines/DHA%20Continuing%20Professional%20Development%20(CPD)%20Guide%202014.pdf (accesed Sep 9, 2017).
9. QCHP-AD continuing professional development program. Available from: http://www.qchp.org.qa/en/AccrdDocuments/Practitioner%20Manual-QCHP-AD%20Continuing%20Professional%20Development%20Program.pdf (accesed Sep 9, 2017).
10. Nassar MFMA. Continuing professional development in the healthcare sector in Egypt: A readiness assessment. 2017.
11. Lebanese Order of Pharmacists website. Available at: www.opl.org.lb (accesed Sep 9, 2017)..
12. Austin Z, Marini A, Glover NM, Croteau D. Continuous professional development: a qualitative study of pharmacists' attitudes, behaviors, and preferences in Ontario, Canada. Am J Pharm Educ. 2005;69(1):4.
13. Bell H, Maguire T, Adair C, McGartland L. Perceptions of CPD within the pharmacy profession. Int J Pharm Pract. 2001;9(S1):55.
14. Attewell J, Blenkinsopp A, Black P. Community pharmacists and continuing professional development—a qualitative study of perceptions and current involvement. Pharm J. 2005;274:519-524.
15. Dopp AL, Moulton JR, Rouse MJ, Trewet CB. A five-state continuing professional development pilot program for practicing pharmacists. Am J Pharm Educ. 2010;74(2):28.
16. Hull H, Hunt A, Rutter P. Community pharmacists' attitudes and approaches to the Royal Pharmaceutical Society of Great Britain continuing professional development initiatives. Int J Pharm Pract. 2003;11(S1):R50.
17. Centers for disease control and prevention. Epi info 7 available on http://wwwn.cdc.gov/epiinfo/7/index.htm (accesed Sep 9, 2017).

18. Mottram DR, Rowe P, Gangani N, Al-Khamis Y. Pharmacists' engagement in continuing education and attitudes towards continuing professional development. Pharm J. 2002;269(7221):618-622.
19. Bollington L. Development of a CPD peer support strategy for hospital pharmacists. Hosp Pharm. 2003;10(11):491-495.
20. Swallow V, Clarke C, Iles S, Harden J. Work based, lifelong learning through professional portfolios: Challenge or reward? Pharm Educ. 2006;6.
21. Furze G, Pearcey P. Continuing education in nursing: a review of the literature. J Adv Nurs. 1999;29(2):355-63.
22. Alkateeb FM, Attarabeen OF, Alameddine S. Assessment of Texan pharmacists' attitudes, behaviors, and preferences related to continuing pharmacy education. Pharm Pract (Granada). 2016;14(3):769. doi: 10.18549/PharmPract.2016.03.769
23. Haughey SL, Hughes CM, Adair CG, Bell HM. Introducing a mandatory continuing professional development system: an evaluation of pharmacists' attitudes and experiences in Northern Ireland. Int J Pharm Pract. 2007;15(3):243-249.
24. Kitiashvili A, Tasker PB. The relationship between attitudes, motives and participation of adults in continuing education: The case of Georgia. Int J Res Rev Educ. 2016;3:13-21.
25. Swainson D, Silcock J. Continuing professional development for employee pharmacists: a survey to compare practice in the hospital and community sectors. Pharm J. 2004;272(7289):290-293.
26. Alexander A. Wake the sleeping beast-the challenge for continuing professional development. Pharm J. 2002;3:171-173.
27. Aylin P, Tanna S, Bottle A, Jarman B. How often are adverse events reported in English hospital statistics? BMJ. 2004 Aug 14;329(7462):369. doi: 10.1136/bmj.329.7462.369
28. Osborn S, Williams S. Seven steps to patient safety. An overview guide for NHS staff. Londres: The National Patient Safety Agency 2 Ed. Available at: http://www.npsa.nhs.uk/nrls/improvingpatientsafety/patient-safety-tools-and-guidance/7steps/ (accesed Sep 9, 2017).
29. Laaksonen R, Duggan C, Bates I. Overcoming barriers to engagement in continuing professional development in community pharmacy: a longitudinal study. Pharm J. 2009;282(7535):44-48.