

Original Research Article

Exploring the needs, barriers, and motivation of Jordanian pharmacists towards continuing education

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Abstract

Purpose: To explore the needs, barriers, and motivations of Jordanian pharmacists towards continuing education (CE) as awareness of these factors may help in building a structured national guidance for pharmacist license renewals in Jordan.

Methods: A 19-item questionnaire was used to investigate the following aspects of continuing education: barriers, motivating factors, preferences, past experiences, effectiveness, and future development. A Google form of the questionnaire was designed and delivered via social media and official communication groups for pharmacy practice institutions.

Results: A total of 449 Jordanian pharmacists responded, out of which 77.3 % were female and 64.6 % between 20 - 30 years old. Community pharmacies represented 44.3 % of the practice sites. The majority of pharmacists (63.5%) showed great interest in pursuing CE and > 80 % agreed that CE improved their knowledge and was reflected in their practice. The main barriers to CE activities were poor timing (51.9 %) and cost (51.2 %).

Conclusion: Jordanian pharmacists show high interest in CE programs. However, time constraint, cost, and work responsibilities are barriers to pursuing CE.

Keywords: Barriers, Continuing education, Motivation, Pharmacists, Professional development

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INTRODUCTION

Jordan is a small Middle-Eastern developing country situated in West Asia and bordered by Palestine, Saudi Arabia, Iraq, and Syria [1]. Throughout the last four decades, the number of schools of pharmacy in Jordan have increased dramatically from only two public schools to 19 (public and private) [2]. All of these schools offer a bachelor degree in pharmacy but only two offer a Pharm D degree [3]. Jordan is estimated to have 21 pharmacists per 10,000 members of the

population [4]. Moreover, the number of registered pharmacists at the Jordan Pharmacists Association (JPA) is 20,803 [2].

As a part of the health care professional team, pharmacists should maintain continuous development in their knowledge and skills to ensure they provide the best patient care [5]. It is crucial to be competent, especially since a pharmacist's role constantly shifts from being just a drug dispenser to being a provider of pharmaceutical care [6].

Continuing professional development (CPD) has emerged to meet the needs of rapidly developing pharmaceutical services worldwide and it has been defined by the International Pharmaceutical Federation (FIP) as “*the responsibility of individual pharmacists for systematic maintenance, development and broadening of knowledge, skills and attitudes, to ensure continuing competence as a professional, throughout their careers* [5].” Meanwhile, continuing pharmacy education (CPE) is a vital part of CPD and not a surrogate for it [7]. CPE is defined by the Accreditation Council for Pharmacy Education (ACPE) as “*a structured educational activity designed or intended to support the continuing development of pharmacists and/or pharmacy technicians to maintain and enhance their competence* [8].”

Some Middle-Eastern countries like Lebanon [9], the United Arab Emirates (UAE) [10], Error! Reference source not found. and Qatar [11] have implemented mandatory CPE programs over the past few years for pharmacist licensure renewals. In April 2018 the Jordanian government changed its regulations, and participation in CPE activities became mandatory for license renewals for all health care professionals like physicians, pharmacists, and nurses [12]. However, a structured CPE program is still not available and there is no clear plan about how this should be implemented.

Pharmacists' needs and barriers in regards to continuing education (CE) have been examined in some Middle-Eastern countries, such as the UAE [13], Qatar [14], and Egypt [15]. However, to the best of our knowledge, this has not been assessed in Jordan previously. It is critical that there be a CPE provider capable of designing a well-structured CPD program. In addition, the provider should be aware of pharmacist expectations, format preferences, and factors that either motivate or prevent their involvement in CPE activities.

This study aimed to assess the needs, barriers, and motivations of Jordanian pharmacists towards continuing education. It is hoped that this will form a background to develop a structured national guidance for pharmacist license renewals in Jordan.

EXPERIMENTAL

Study sample and subjects

A minimum target sample size of 376 Jordanian pharmacists was calculated with a 95% confidence interval and 5% margin of error.

Research instrument

The literature was studied to identify relevant published studies. The questionnaire used was adopted with modifications from a previously published questionnaire [13] and particular motivation factors were added from another study [14]. A 19-item questionnaire was developed exploring the following aspects: barriers to CE, motivation factors, CE preference and experience, effectiveness of CE activities, and future development. The responses were based on a 5-point Likert scale with 1 = strongly disagree to 5 = strongly agree. Face validity was assessed by four clinical experts in the area of continuing education in the pharmacy profession. The four experts reviewed the questionnaire to ensure clarity, comprehension, and ease of reading. Consequently, modifications to language and order were made. Content validity was assured by a thorough review of the literature to ascertain that all important elements had been included. Additionally, the questionnaire was piloted with 5% (n = 20) of the target sample (N = 376) to check the clarity and applicability.

The questionnaire was distributed through Google Forms using social media and official communication groups for pharmacy practice institutions. Data collection was conducted from July 2017 until April 2018.

Data analysis

Descriptive analysis was performed using Statistical Package for the Social Sciences (SPSS) ® version 22. Categorical and continuous values were expressed as frequency (percentage) and mean ± SD, as appropriate.

RESULTS

A total of 449 pharmacists completed the questionnaire. Table 1 summarizes the characteristics of the study sample. The majority of participants were female (77.3%), community pharmacists (44.3%) aged between 20 - 30 years (64.6%) and with at least one university degree, mainly a bachelor degree of pharmacy (54.3%) or PharmD (26.3%). The majority of participants (75.9%) had less than 12 years post-graduation experience and more than half of them (63.7%) had less than 5 years of experience.

On average, participants reported that they had participated in 3.00 ± 7.922 CE activities in the previous 6 months. These were mostly in the form of online or printed material. The majority of pharmacists expressed that they had a great interest in pursuing CE activities and more than 80% agreed that CE had increased their knowledge which was reflected in their practice. Of note, they expressed that their employers shared neutral to positive attitudes towards their participation (Table 2).

Figure 1 summarizes the reasons for the pharmacists' choice of CE. More than half of the participants agreed that poor timing and cost were the main barriers that had prevented them from participating in CE activities (Figure 2).

Seventy-nine percent of the participants were planning to attend at least three CE activities in the following 2 years. Participants reported having a higher interest in interactive workshops (60.8 %) and live in-person presentations (50 %) compared to DVD/Video/Audio (30.7 %) CE. Moreover, 35.2 % of pharmacists believed that Thursday (i.e., the day before the weekend in Jordan) morning was the best time for attending CE activities and 54.3 % preferred Arabic mixed with English as languages for CE. In addition, pharmacists were asked to assess their need for certain topics to be covered in CE activities. More than 50% of the participants showed good to high interest in topics that were related to pharmacy practice (clinical skills, e.g., detecting treatments related problems and communication skills), therapeutics/disease management, drug use in pregnancy/lactation, drug abuse/misuse,

management of pediatrics diseases and nutrition/supplements/herbal medicine.

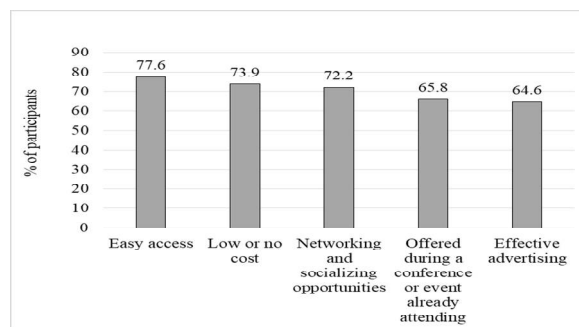


Figure 1: Pharmacist reported reasons for choosing CE activities. The percentage (%) is based on a 5-point Likert scale with 1=strongly disagree and 5=strongly agree. Total points from participants/total maximum possible points

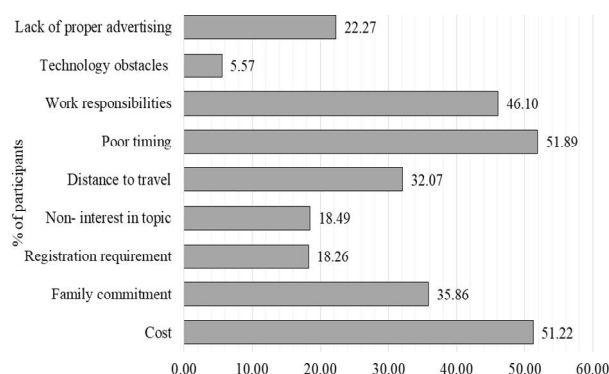


Figure 2: Pharmacists' barriers to participating in continuing education activities in Jordan (n = 449)

Table 1: Participating Pharmacists Demographic Details (N = 449)

Characteristic	No. (%)	Characteristic	N (%)
Gender		Number of years passed since graduation	
o Male	102 (22.7)	o ≤ 12 years	341 (75.9)
o Female	347 (77.3)	o >12 years	108 (24.05)
Age group		Working hours/week	
o 20-30	290 (64.6)	o < 40	94 (20.9)
o 31-40	89 (19.8)	o 40-48	254 (56.6)
o 41-50	52 (11.6)	o > 48	65 (14.48)
o > 50	18 (4.0)	o Variables	36 (8.0)
Highest pharmacy degree		Years of experience	
o BSc	244 (54.3)	o 1-5	286 (63.7)
o PharmD	118 (26.3)	o >5-10	83 (18.5)
o Masters	60 (13.4)	o >10-15	37 (8.2)
o PhD	20 (4.5)	o >15-20	18 (4.0)
o Pharmacy residency	7 (1.6)	o >20	24 (5.3)
Current practice setting			
o Community pharmacy	198 (44.3)		
o Hospital	80 (17.9)		
o Academic	57 (12.8)		
o Industry or research center	21 (4.7)		
o Marketing/Sales or drug stores	55 (12.3)		
o Other (e.g., regulatory affairs, insurance companies)	36 (8.1)		

Table 2: Continuing education beliefs and past CE activities characteristics

Question	N (%)
Rate your interest in continuing education*	
○ No interest	24 (5.3)
○ Weak interest	35 (7.8)
○ Neutral	105 (23.4)
○ Good interest	78 (17.4)
○ High interest	207 (46.1)
Does your employer appreciate your participation in continuing education?*	
○ No interest	54 (12.0)
○ Weak interest	79 (17.6)
○ Neutral	160 (35.6)
○ Good interest	78 (17.4)
○ High interest	78 (17.4)
Type of continuing education used in the past and the satisfaction level** (%)	
○ Live in-person presentation	173 (38.5)/[63]
○ DVD/Video/Audio	114 (25.4)/[62.73]
○ Computer or smart mobile device/internet based	295 (65.7)/[75.4]
○ Printed materials	199 (44.3)/[68.34]
○ Interactive workshop	160 (35.6)/[81.4]
Does continuing education increase your knowledge?	
○ Strongly disagree	3 (0.7)
○ Disagree	16 (3.6)
○ Neutral	43 (9.6)
○ Agree	133 (29.6)
○ Strongly agree	254 (56.6)
Is continuing education reflected in your practice behavior?	
○ Strongly disagree	5 (1.1)
○ Disagree	17 (3.8)
○ Neutral	66 (14.7)
○ Agree	138 (30.7)
○ Strongly agree	223 (49.7)

*Based on Likert scale 1 = no interest and 5 = high interest; ** based on Likert scale 1 = strongly disagree and 5 = strongly agree. Number of strongly agree or agree answers/total number

Table 3: Motivation factors towards continuing education activities (N = 449)

Factor	Strongly disagree N (%)	Disagree N (%)	Neutral N (%)	Agree N (%)	Strongly agree N (%)
The current CE opportunities meet my CE needs	40 (8.9)	72 (16.0)	204 (45.4)	97 (21.6)	36 (8.0)
My employer motivates me to achieve my CE goals	50 (11.1)	80 (17.8)	169 (37.6)	101 (22.5)	49 (10.9)
I have sufficient enthusiasm to achieve my goals	20 (4.5)	26 (5.8)	138 (30.7)	144 (32.1)	121 (26.9)
Meeting with colleagues motivates me to achieve my CE goals	15 (3.3)	43 (9.6)	119 (26.5)	159 (35.4)	113 (25.2)
My employer acknowledges my CE activities	44 (9.8)	75 (16.7)	158 (35.2)	115 (25.6)	57 (12.7)
Challenges in my job alone motivate me to achieve my CE goals	27 (6.0)	46 (10.2)	146 (32.5)	143 (31.8)	87 (19.4)
Sufficient resources are available to achieve my CE goals	20 (4.5)	66 (14.7)	184 (41.0)	121 (26.9)	58 (12.9)
Cost is fully paid by employer or split	123 (27.4)	79 (17.6)	140 (31.2)	68 (15.1)	39 (8.7)

Moreover, 44 and 43 % of the participants showed an interest in topics related to humanities/psychology or smoking cessation, respectively.

More than one-half of the pharmacists agreed that meeting with colleagues (60.6 %), having sufficient enthusiasm (59.2 %) and challenges in their jobs (51.2 %) motivated them to achieve their CE goals. Less than a quarter of the

participants (23.8 %) thought that if cost had been fully or partially covered by their employer, this would have motivated them to attend more CE courses (Table 3).

DISCUSSION

Assessing of the needs of pharmacists in regards to CE is important to design a comprehensive CPD program that is satisfactory for them and raises their level of professionalism. Our study findings offer insight into the needs and the future of Jordanian pharmacists for continuing education and for the first time in Jordan this study inspects the CE needs, motivation factors, and barriers.

Of note, the majority of participants in this study were young females practicing in community pharmacies. This is not surprising as the majority of students at schools of pharmacy in Jordan are female [16]. This is also in agreement with a previous study in Lebanon where the majority of participants were aged less than 40 years and were community pharmacists [17]. Moreover, the method of recruitment in our study played a role as younger adults use social media more frequently than older ones [18]. In addition, questionnaire submissions were by internet-based Google Forms, so pharmacists with limited internet access were disadvantaged.

Pharmacists in our study expressed positive beliefs regarding the significance of CE in enhancing their knowledge and practice and this was consistent with the findings of another study in the UAE [13]. However, a study in the USA showed the importance of CE in enhancing pharmacists' knowledge, but it was not highly efficient in improving their practice [19]. CPD is more likely to produce a change in practice when a needs assessment has been carried out [20]. Moreover, Wheeler and Chisholm-Burns have suggested that it is better to switch pharmacist continuing education which focuses on a credit hour attendance system to intra-professional learning and performance to achieve the desired improvement [21].

Online CE was the preferable format among Texan pharmacists, and the most relevant factors affecting their choices regarding CE programs were the scope, the location, and the cost of programs [22]. Obviously, easy access, low or no cost, networking with colleagues, and good advertising affected Jordanian pharmacists' choices regarding CE activities. Moreover, easy access was dominant in Emirates [13] and Lebanese [17] pharmacists as well. In a globalized world, this could be explained as

people having a lot of commitments and accessibility is an important factor. This is obvious in our study as a much higher percentage of participants attended online CE activities (internet-based CE format) compared to live in-person presentations or interactive workshop activities. This is not surprising as a previous study in Canada concluded that pharmacists often preferred resources that were more suitable rather than those that might help in obtaining new skills or knowledge [23]. Furthermore, easy access learning resources at appropriate times were also the preference of community pharmacists in Western Australia [24].

The reported barriers that had prevented participating pharmacists from attending CE courses were mainly poor timing, cost, and work responsibilities. This should be addressed by employers and should be taken into consideration when the CE provider tailors the program, as almost 80% of participants reported working for 40 h per week or more. In addition, the minimum wage per month for pharmacists in community pharmacies in Jordan was set at JD 260 (US\$366) according to Jordan Pharmacist Association (March 2009), but this has not been activated [25]. This wage can hardly cover the main living expenses like food, rent, and fuel, so extra expenses would be a burden. Therefore, some CE activities were not affordable for the majority of Jordanian pharmacists. This is consistent with that reported in Egypt and Australia where time constraints and cost were the main barriers for attending CE. In addition, other barriers like lack of program accreditation, distance to travel, and relevance have also been reported [15].

The responses of Jordanian pharmacists regarding motivation factors for CE were in high agreement with their peers in Qatar, where colleague interaction, innate enthusiasm, and career challenges were reported to be the main driving forces to participate in CE activities [14]. However, the availability of sufficient resources was the most encouraging factor for Lebanese pharmacists to get more involved in CE programs [17].

Expectedly, Jordanian pharmacists showed high interest in attending CE courses that would cover topics related to their pharmacy practice. Similarly, pharmacists in the UAE [13], Qatar [14], and Egypt [15] were willing to participate in CE programs that covered disease management and pharmacy practice.

Limitations of the Study

The main limitations of this study were that participation was only restricted to those who had internet access or were a member of Jordanian pharmacist social media groups, which may have affected the representativeness of the sample. Further assessment is required to correlate pharmacist needs, motivations, and barriers with different practice settings, age groups, highest degree obtained, and years of experience. Finally, a large sample size will be required in future studies to be able to generalize the results.

CONCLUSION

Pharmacists in this study show high interest in CE program although some obstacles may be present like time constraints, cost, and work responsibilities. In addition, participants being able to choose the time, date, and language are important when holding CE activities. These findings would be useful to tailor and optimize CE programs for Jordanian pharmacists in future.

DECLARATIONS

Conflict of interest

No conflict of interest is associated with this work.

Contribution of authors

We declare that this work was done by the authors named in this article and all liabilities pertaining to claims relating to the content of this article will be borne by the authors.

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