

Continuing Pharmaceutical Education: The Extent of the Conviction and Applicability in the Palestinian Pharmaceutical Community

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Abstract

Pharmacists very often make decisions that affect patient outcomes. Studies have indicated that they have access to limited sources of information. Maintaining a good professional practice is very important especially in the health care section and this could be achieved in various ways and many steps, one of them being up-to-date with the latest scientific researches by continuous education. Therefore, structured continuing pharmaceutical education (CPE) is necessary to improve their standards and attitudes. In this study, we aimed to find the extent of the conviction and applicability of continuous education in the Palestinian Pharmaceutical community and to identify the most important topics and program for CPE as well as the most significant barriers of conducting CPE successfully. Thus, a cross-sectional study was conducted using an online questionnaire. The survey was designed to measure the extent of the conviction and applicability of continuing Pharmaceutical education in the Palestinian pharmaceutical community. The study included pharmacists who currently practicing pharmacy in either a community pharmacy or a health care setting or retired; from all governorates in Palestine. Some Pharmacy students participated in this study too. All data were collected between February and April 2020. SPSS version 26 was used to analyze the data collected. Three hundred seventy-three Pharmacists including the Pharmacy students (n= 71 out of 373; 19%) filled and completed the questionnaire; the majority of them worked in the private sector (n= 162; 43.4%), and 29 pharmacists (7.8%) worked in the government sector. The others either are not working (retired or students) or own their independent business. Most of the respondents (n= 235, 63%) were aware of the CPE program in America and Canada, and 268 (71.8%) didn't know that CPE is applied in Arab countries. About 196 Pharmacists (52.5%) who participated in the study were up-to-date with the latest discoveries and recent information in the pharmacy field. Almost 360 Pharmacists (96.5%) were with the idea of applying for the CPE program in Palestine, 49.6% (n= 185) were with linking the licenses with the CPE program, and 94.9% (n= 356) think that CPE will improve their performance and profession.

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One hundred sixty-six Pharmacists (44.5%) preferred online lectures for the CPE program and 38.3% preferred attending the scientific seminars. The findings of this study demonstrated that the majority of Palestinian pharmacists are willing to participate in continuing pharmaceutical education programs and encourage its applicability in Palestine as this will improve their performance and profession.

Key words: Distance education; Continuing pharmaceutical education; Community pharmacists; Palestine; Pharmaceutical care.

1. Introduction

Pharmacists very often make decisions that affect patient outcomes. Studies have indicated that they have access to limited sources of information. Maintaining a good professional practice is very important especially in the health care section and this could be achieved in various ways and many steps, one of them being up-to-date with the latest scientific researches by continuous education. Therefore, structured continuing pharmaceutical education (CPE) is necessary to improve their standards and attitudes. In Palestine, many patients tend to seek direct medical advice from community pharmacists who do not always adhere to the pharmaceutical laws and dispense medications over the counter. In addition, community pharmacists are involved in the dissemination of drug information to both consumers and physicians. However, the drug information resources of community pharmacists should be adequate. Therefore, structured Continuing Pharmaceutical Education (CPE) programs would be extremely important to promote the knowledge and attitude of working pharmacists to fulfill their duties towards patients and the community. As the world continues to develop, we can also see the impact on different areas. One of them is health care services, and because of that the expectation of what health care provider is becoming higher and higher each year. As so the role of pharmacists is going under changes, pharmacy graduates are expected to be able to engage in direct patient care roles via collaborative practice, perform comprehensive medication management, and provide preventive care services. To reach this point, the pharmacists should be Knowledgeable of the latest updates. We can achieve that by a different approach, one of them is by implementing a continuing education system. Continuing pharmaceutical education (CPE) has served as the standard for maintaining professional competence for over 40 years in the United States. Defined by the Accreditation Council for Pharmacy Education (ACPE), CPE is a “structured educational activity designed or intended to support the continuing development of pharmacists and/ or pharmacy technicians to maintain and enhance their competence” [1]. In America, all 50 state boards of pharmacy, the District of Columbia, Guam, and Puerto Rico require CPE hours as a prerequisite for re-licensure [2]. Although specific CPE requirements vary from state to state, the majority of state boards of pharmacy (43 states) require either 15 contact hours [1.5 continuing education units (CEUs)] annually or 30 contact hours (3 CEUs) biennially [2]. Twenty-three states specifically require “live” CPE hours, and 17 state boards require specific CPE topics such as law, patient safety, immunizations, HIV, or pain management. From a regulatory standpoint, completing the hours-based CPE requirements by definition equals competency [2]. Unfortunately, to this day the continuing education (CE) system does not support intentional, individualized plans and may need to be reconstructed to meet the needs of today’s practitioners [3,4]. Transforming continuing education into a vehicle that advances both the professional’s practice and the greater health care system, by merging continuing professional development (CPD) into the current continuing education structure. ACPE defines CPD as an ongoing, self-directed,

structured, outcomes-focused learning cycle focused on maintaining and improving the performance of the professional practice [5]. CPD does not replace CPE but rather enhances CE in a broader approach ensuring pharmacist competence and performance and patient health outcomes [6]. CPD exists as a cyclical learning process (Figure 1) where the learner reflects, plans, learns, evaluates, and applies. The determination of the learning experience is based on the assessment of needs and goals. Central to each step in the cycle is a personal learning portfolio where learners record self-evaluations [5].

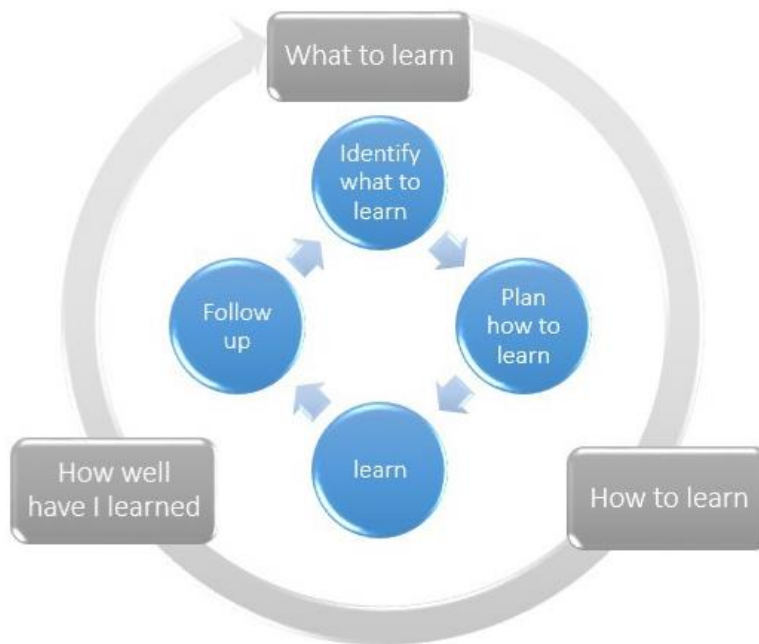


Figure 1: The CPD Cycle. Accreditation Council for Pharmacy Education. Adapted from Accreditation Council for Pharmacy Education. Guidance on Continuing Professional Development [5].

CPD Components are Reflect; self-assessment of personal or organization needs or goals. The Plan; defining objectives, creating formal and informal learning opportunities, defining measures of success, articulating plan with colleagues. The Learn; implementing the personalized plan. The Evaluate; assessing learning effectiveness and impact on performance and relevant outcomes, and The Apply; incorporating learned knowledge, skills, and attitudes into practice. (5).

The Institute of Medicine published a report on CPE in the health care professions in 2009. The study identified significant weaknesses in the behavior, accounting, enforcement, and assessment of CPE in the healthcare professions [4]. Following the publishing of the study, accrediting agencies and licensing boards have resolved several of these concerns by updated requirements. For example, standards for commercial support and sunshine laws have since further addressed industry influence. Nevertheless, most of the CPE structure exists in silos while health care professionals are required to work in action as a team [4]. Moreover, regulators also largely focus CPE criteria on credit hours engagement and production, rather than performance [4]. With several moves towards inter-professional education, CPE is more commonly correlated with instructional forms of learning and

clinical experience, yet in several situations may not assess expertise or effect on patient treatment. The implementation of the CPD method into action may strengthen the current structure of continuing education explicitly for these limitations. By encouraging health workers to adapt their learning environments, contexts, and programs, the method capitalizes on underlying incentives in its wider scope [4, 5]. Students as well as experts struggle with correct self-assessment and identifying gaps in knowledge. (7,8) Because CPD necessarily requires self-assessment, reflection skills can be formally practiced and improved upon, leading to more meaningful learning over time. When identifying practice or educational gaps, learners can specifically target and create plans to improve their practice with measurable results [4].

Lebanon is one of the Arab countries that applying and using the CPE program. Some rules regulate this program and explain what is required for the pharmacist to do. In Lebanon, the pharmacist must attend at least five lectures in the year. Lebanese Pharmacists Union in various Lebanese regions, organize lectures free of charge, through the annual conferences, the pharmacist days, and the ongoing training programs. The ongoing pharmacist education is supervised by a committee headed by the President of the Lebanese Pharmacists Union, composed of the Chairman of the Scientific Committee as a Vice-President, and appointed by the Council of the union as Secretary of the House and four members of the affiliated pharmacists of the Association [9, 10]. Every year, compulsory education works are given fifteen (15) accreditation, of which at least five are for the lecture category. The lectures are given in the continuous education programs and calculated as twice the number of the credit points. Pharmacists must obtain a total of 45 credit hours in 3 years at a rate of 15 credit hours per year [9, 10]. If the total number is not obtained, the pharmacist will be referred to a decision of the President on the proposal of the Committee to the Council of the union, which will suspend his registration in the union temporarily until the pharmacist has proven of finishing the total number of credit points [9, 10]. In this study, the aim was to explore pharmacists' attitudes towards CPE, identify their preferred method of CPE, find the extent of the conviction and applicability of continuous education in the Palestinian Pharmaceutical community, and identify the most important topics and programs for CPE as well as the most significant barriers of conducting CPE successfully.

2. Materials and Methods

A cross-sectional study was conducted using an online questionnaire (Arabic Version). The survey was designed to measure the extent of the conviction and applicability of continuing Pharmaceutical education (CPE) in the Palestinian pharmaceutical community. Data was collected using an observational, cross-sectional Web-based survey. The desired study population was pharmacists who were currently practicing pharmacy in either a community pharmacy (chain or independent) or a health care setting (e.g., hospital, home health care). Subjects were excluded from the study if they were retired, or did not respond within two months from the survey initiation. A sample of pharmacists was attained from closed Facebook groups that include only pharmacists and pharmacy students. From this list, a random sample of pharmacists was identified for participation in the survey. The questionnaire consists of 19-items include; the academic degree obtained, years of experience, primary place of employment, and geographical location. In addition, the recipients were asked if they're up-to-date with recent discovery and research that are related to their profession, and does it affect their everyday work. Also, recipients were asked if they're aware of CPE programs that are applied in America, Canada, and some Arab

countries like Lebanon. In addition, they were asked if they support applying for the CPE program and associated it with re-licensing. They were also asked to define the type of CPE format and program, such as lectures, symposia, and if they're printed materials, and to choose the type of CPE credits. Finally, a detailed question about CPE programs was included. we also included a copy of our original survey, you can see it at the end of our report.

After the questionnaire was evaluated, it was formatted on Google Form and placed online, and kept for about two months. Participation was voluntary and confidential. All the data were collected between February and April 2020. Data were downloaded and entered into Microsoft Excel (Microsoft Corp., Redmond, WA). Descriptive statistics were computed for all variables by using Statistical Package for the Social Sciences (SPSS) software. Chi-square analyses were performed to see if there's a relation between the year of experience and different variables. In addition, chi-square analysis was used to compare the pharmacists' academic degrees with the same variables. Statistical analyses were performed using SPSS software, version 26.

3. Results

The questionnaire was kept online for around two months and posted in closed groups on Facebook, an average of 100 messages in a day, out of these the average of response from pharmacists were 10-15 per day for the first month, in the second month the rate of responses by pharmacists were decreased to 5-10 per day. At the end of the mentioned period of the study, a total of 373 Pharmacists including the Pharmacy students filled the questionnaire. Overall, 66.5% (n= 248) of the Pharmacists hold a Bachelor's degree, and 36.7% (n= 137) of the participants live in Hebron and 63% (n= 235) of them had 0-5 years of experience this includes pharmacy students as shown in Tables 1 and 2.

Table 1: The Geographic Distribution of the Sample

Governorate	Frequency	Percent
Hebron	137	36.7
Jerusalem	16	4.3
Jenin	16	4.3
Tubas	7	1.9
Tulkarm	18	4.8
Nablus	48	12.9
Salfit	11	2.9
Qalqilya	15	4.0
Ramallah	30	8.0
Jericho	7	1.9
Gaza	35	9.4
Bethlehem	33	8.8
Total	373	100.0

Table 2: The Demographics of the Sample Regarding the Year of Experience and the Academic Degree.

Year of experience	Frequency	Percent
0-5 y	235	63.0
6-10 y	53	14.2
11-20 y	62	16.6
21-30 y	20	5.4
More than 30 y	3	0.8
Total	373	100.0
Academic Degree		
Bachelor	248	66.5
Master	47	12.6
Doctorate	7	1.9
Student	71	19.0
Total	373	100.0

The majority of the participated Pharmacists are working in the private sector (n= 162; 43.4%), and 29 pharmacists (7.8%) working in the government sector. The others (n=137; 36.7%) either are not working (retired or students) and 45 Pharmacists (12.1%) own their own and independent business as shown in Figure 2. Pharmacists working in the governmental sector either they are working in the Ministry of Health (MOH) or Military Services, working in the private sector they are working in the company, or pharmacy, or warehouse, and if they have their own business either they own pharmacy, or company, or warehouse. Most of the respondents (n= 235, 63%) were aware of the CPE program in America and Canada, and 268 Pharmacists (71.8%) didn't know that CPE is applied in Arab countries like Lebanon. About 196 Pharmacists (52.5%) who participated in the study were up-to-date with the latest discoveries and recent information in the pharmacy field. Almost 360 Pharmacists (96.5%) supported the idea of starting the CPE program in Palestine, 49.6% (n= 185) were with linking the licenses with the CPE program, and 94.9% (n= 356) think that CPE will improve their performance and profession. One hundred sixty-six (44.5%) preferred online lectures for the CPE program and 38.3% preferred attending the scientific seminar. About 108 Pharmacists (28.9%) thinks that the most important in CPE is the topic of the lecture then was the personality of the lecturer (n= 97; 25.9%), and then the type of CPE program (n= 84; 22.5%), and the location of the lecture (n= 84; 22.5%) as shown in Figure 3.

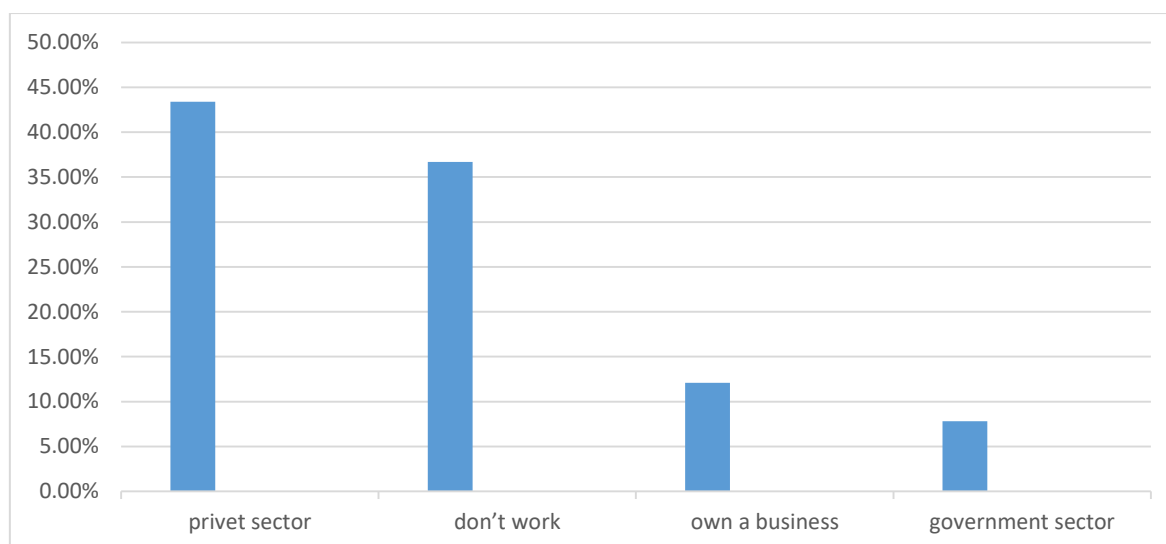


Figure 2: The Distribution of Different Working Areas for Pharmacists.

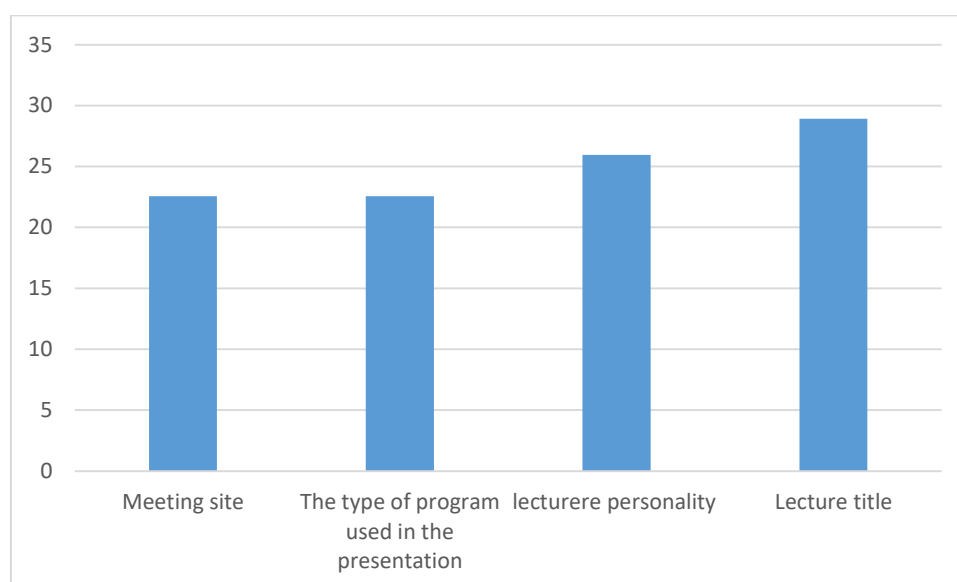


Figure 3: The percentage of what pharmacists think is the most important in the CPE program.

The majority of Pharmacists chosen hours or point systems ($n= 275$; 73.7%) for measuring CPE requirement, where the rest chose attending or submitting an exam. The reasons that pharmacists think that the CPE program won't be beneficial to their profession were divided into six categories; as 139 Pharmacists (37.3%) answered that the CPE isn't motivated in the work, 22.7% ($n= 85$) think it doesn't affect their performance, while 42 Pharmacists (11.3%) think that it'll not develop their academic skills. Surprisingly, 10.7% ($n= 40$) answered that the CPE is a waste of money and doesn't develop any personal traits, and 27 pharmacists (7.3%) mentioned it is a waste of time, as shown in Figure 4.

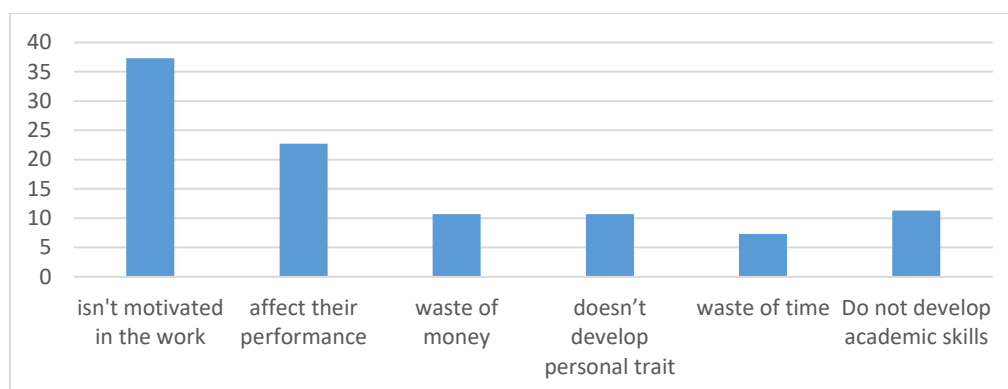


Figure 4: The Percentage of Different Reasons that Pharmacists Think that CPE Won't be Beneficial.

About half of the Pharmacists ($n=166$; 44.5%) preferred to receive the CPE online lectures, 143 Pharmacists (38.3%) preferred attending the scientific seminars, and 5.9% ($n=22$) preferred self-study for the CPE program, as shown in Figure 5. For the suitable time of the CPE lectures, 31.1% ($n=116$) mentioned they preferred the lectures in the evening, while 104 Pharmacists (27.9%) preferred them on official holidays, 25.6% ($n=96$) preferred the lectures in the morning hours, and 7.8% ($n=29$) at lunch breaks (Figure 6).

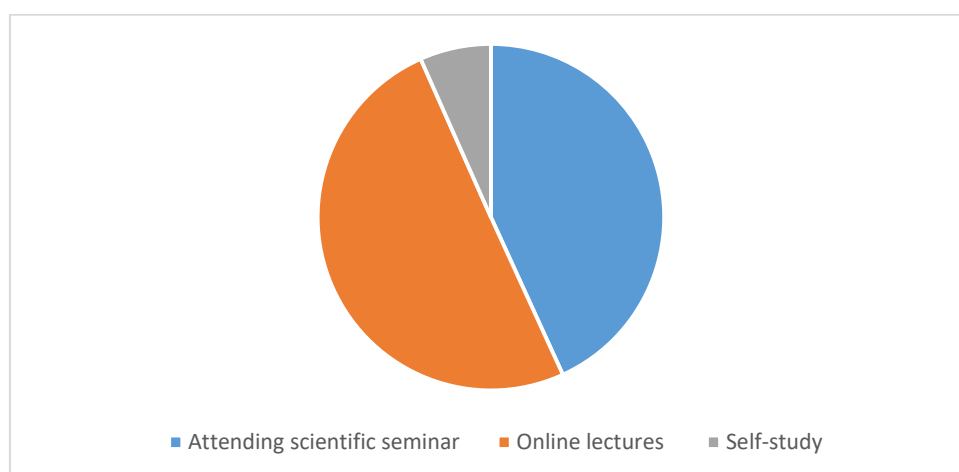


Figure 5: The distribution of what type of CPE program pharmacists prefer.

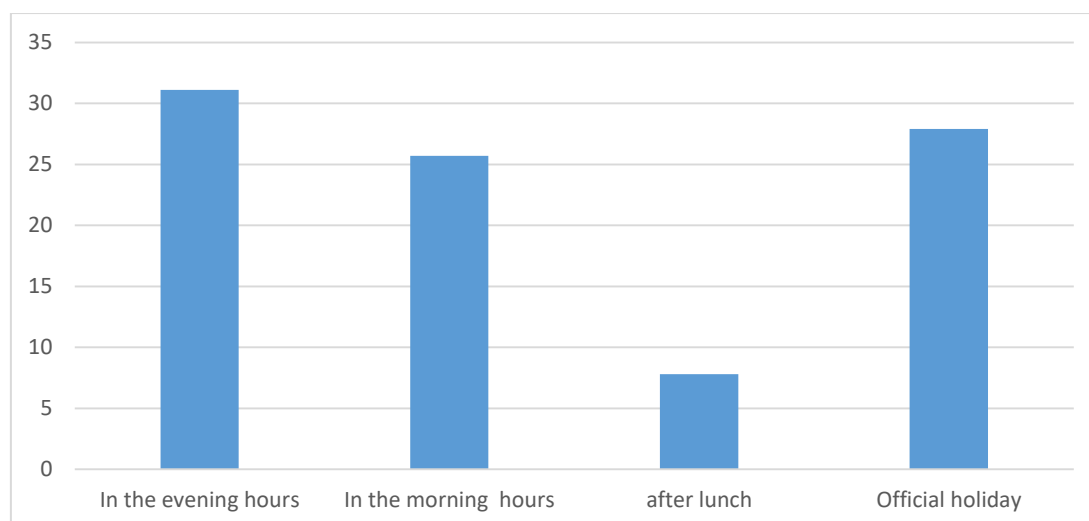


Figure 6: Different Times for CPE Program that Pharmacists Think is Suitable for them.

About 202 Pharmacists (54.2%) preferred to include the CPE fees from their annual contribution to the union, while 76 Pharmacists (20.4%) preferred not to include any fees for the program, and 9.7% (n= 36) approved to pay fees for the CPE program. An additional question for the pharmacy students was included in the questionnaire; if they are with the idea of applying for the CPE program in Palestine, and the result was 56.3% agreed.

When SPSS software is used to find if there's a significant difference between the years of experience with the different variables. The variables are the type of CPE program chosen by participants, whether they think CPE will affect their performance in practice if they agree on linking it with the license, and finally if they think the CPE program should be applied in Palestine. We found that there's no significant difference ($0.05 < p$).

4. Discussion

The pharmacy profession has changed in recent years. Nowadays, the pharmacist's role not only formulating and dispensing medications but his duties include the provision of pharmaceutical care and public health services to patients. This required continuous competency through improving pharmacist's knowledge, skills, and performance. This can be achieved by the involvement of pharmacists in continuing pharmaceutical education activities. Unfortunately, the CPE in Palestine does not exist. However, we carried this study to determine the conviction and applicability of CPE in the Palestinian Pharmaceutical Community and to identify the most important topics and program for CPE as well as the most significant barriers of conducting CPE successfully. We found there's a high percentage (96.5%) of the pharmacist agrees to the applicability of CPE program in Palestine in comparison to the high percentage of pharmacists who refused the idea in 1997. The first CPE program was issued in 1997 in Palestine; by making a lecture at Hebron University but the number of the pharmacist who attended this lecture was small in comparison with the high number of licensed pharmacists back then. In addition, the idea itself faced a very high rate of rejection from the pharmacists. The change in the opinion of pharmacists toward the CPE program could be due to the enormous and rapid change in the technology and medicine world that happened during the last 20 years, or the increase in patient relationships

with the pharmacist, where patients in Palestine may come for the pharmacist's advice before even thinking about going to the doctor. However, the pharmacist may feel pressured or curious to know more. Which drives them to search more or be up to date with the latest discoveries, to ensure patient safety and provide the best medical services they could provide. Although the number of pharmacists who agreed on the CPE program is very high, it is not the same as when we asked to bind it with license, maybe some of the pharmacists interested and wants to know more but doesn't want to commit to it, where when we view knowledge some people just want to understand more about what happens around them and they don't feel the same when it is forced upon them. To the best of our knowledge, this investigation is the first to determine pharmacists' preference for sources of CPE programs in Palestine. The results of this research demonstrate that pharmacists choose online lectures and attending scientific seminars, with 44.5% and 38.3% respectively. The factors that investigated and could affect this choice were the year of experience, which from it could approximately know the age of the participants and the Academic degree. SPSS software shows, there is no relation between these factors. Thus, it can conclude that it depends on personal preference, and easy access to the internet, it could also because the majority of pharmacies nowadays uses computers software to manage their pharmacy. Not only the youth could be able to know how to use the new technologies, but also other pharmacists who graduated a long time ago especially these programs are easy to use, fast, and very convincing.

We noticed that a lot of participants know about the CPE program in foreign countries such as America and Canada, on the other hand, such knowledge about the Arab countries isn't that known. This could be due to various reasons; one of them is that the CPE program that applied in Lebanon is quite new; started in 2011, or because the media coverage isn't as big as the one in America and Canada. From the result of this research, most pharmacists said that applying the CPE program will improve their performance, but this was rather a theoretical result and mostly depends on the personal opinion of participants. Previous studies presented by Barner and Bennett [11] and Patterson [12] noted that improvement in knowledge doesn't always translate to improvement in practice behavior. But the limitation of these studies was the time between program completion and the follow-up assessment (3 months); which is a small period to judge the effectiveness of the CPE program.

The main problem also of not starting the CPE in Palestine is the barriers of CPE. The barriers of CPE are time constraints and lack of motivation which discourage pharmacists from participating in CPE activities. The factors that impact pharmacists' motivation to be involved in CPE activities are improving knowledge followed by improving skills and keeping up to date in the latest information in the pharmacy field as factors that positively impacted pharmacists' motivations. The job restrictions associated with CPE and lack of personal time and motivations were the major barriers. Thus, motivations were significantly correlated to pharmacists' attitudes and significantly negatively correlated with barriers. The main barriers also include work-related pressures, social life, lack of motivations, and lack of financial resources, the restrictive nature of CPE, and age and experience. Some participants mentioned that their age doesn't help them to learn new information and they felt they are too old to learn new material and others felt they were experienced enough to not be involved in CPE. Others mentioned that due to lack of resources and relevant learning opportunities, time constraints, and inaccessibility (location/distance) as also major barriers to CPE among pharmacists. Transportation, quality of learning material, and the methods used to deliver CPE have also been identified as barriers to CPE. In addition,

the cost of CPE activity may be a significant barrier to CPE among pharmacists. Since continuing pharmaceutical education is important in the advancement and development of the profession, all efforts must be combined to start implementing continuing pharmaceutical education in Palestine. This can be done through the cooperation of the Palestinian Pharmacists Association and the Palestinian Ministry of Health. As our study showed that the majority of pharmacists who participated in it want continuing pharmaceutical education and wanted as a condition of the license renewal for pharmacists. However, there is conviction and applicability the continuing pharmaceutical education in the Palestinian pharmaceutical community. The majority of participants strongly agreed that life-long learning is a professional responsibility of all pharmacists and that they would fall behind if they stopped learning about developments in pharmacy. All the above-mentioned barriers of CPE should be overcome before starting the CPE program in Palestine. Overall, Pharmacists in Palestine have positive attitudes towards continuing education. However, many obstacles avert pharmacists to practice continuing education. Further studies are required to explore how to overcome the barriers and provide more feasible and relevant continuing education to pharmacists.

This research study measures the extent of the conviction and applicability of continuing pharmaceutical education in the Palestinian pharmaceutical community. The major barriers that may prevent pharmacists from attending CPE programs were lack of time, distance from the practice, lack of CPE programs, and duration of the activity. The number of responses was few compared to the total number of total Pharmacists in Palestine, and that it is often because the questionnaire was conducted online. Another reason for such a few numbers of responses is that the questionnaire was sent to the Pharmacists via social media applications and most likely was found in messages requests so that not all of them have seen or read it. The majority of the participants were from Hebron city, because the questionnaire was distributed via Facebook messenger and pharmacy groups, and the Facebook policy usually suggests to you the residents who are near to your area. The findings of this study demonstrated that pharmacists are willing to participate in CPE programs. However, the working conditions of pharmacists would be a major barrier to their attendance. Therefore, improvement of the working conditions of community pharmacists, development of credited CPE programs in each region, as well as improving communication between the Palestinian Pharmaceutical Association, Palestinian Ministry of Health (MOH), and community pharmacists are highly recommended. On the other hand, this study had some limitations. First, we used a convenient sampling for participants' selection. Moreover, most of the study subjects are from the Hebron governorate and some of them are students. Because most of the participants are only from one area and some are students, our findings may not very accurately reflect all Pharmacists in Palestine. Furthermore, the cross-sectional design that was adopted in the current study did not allow for testing between variables accurately. Finally, the recall bias and language level of complexity could not be eliminated completely due to limitations in such studies as it is an online survey and not a face-to-face study.

5. Conclusions

Pharmacists are encouraging the idea of the CPE program in Palestine. The majority of Palestinian pharmacists are willing to participate in continuing pharmaceutical education programs and encourage its applicability in Palestine as this will improve their performance and profession, even though part of them don't think it should be linked with a license renewal because they think it will not improve their practice. CPE in Palestine should be

established as soon as possible with a trial period for a significant time so we can see the results of the program, after that, it can suggest the idea of linking it with relicensing. Linking CPE with relicensing is important for the success of continuing pharmaceutical education, thus it is suggested that linking CPE with the license can be started with pharmacy graduates after 2020, and this is what the United States did 20 years ago. All the barriers of CPE should be overcome before the beginning of the CPE program. However, the working conditions of pharmacists would be a major barrier to their attendance. Therefore, improvement of the working conditions of community pharmacists, development of credited CPE programs in each region, as well as improving communication between the Palestinian Pharmaceutical Association, MOH, and community pharmacists are highly recommended.

6. Ethical Considerations

The study was approved by the Palestinian MOH and Palestinian Pharmaceutical Association. The identities of participants remained unknown and confidential; the data only used for research purposes.

7. Conflicts of Interest and Financial Disclosure

The authors declare no competing financial interest and no conflicts of interest concerning the authorship and/or publication of this article.

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