



A Study on the Barriers to Lifelong Learning among Filipino Pharmacists

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Research Article

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Abstract

Continuing Professional Education (CPE) is a concept which has evolved from the need to find a better platform for professionals to face the challenge of keeping themselves up-to-date with new knowledge, discoveries, and skills in order to perform better in their professions. The study aims to identify barriers to lifelong learning among Filipino pharmacists that deter them to participate in related activities. A survey conducted among attendees of the Philippine Pharmacists Association-provided CPE seminars in 2012 ranked the barriers to lifelong learning. Using odds ratio to identify the confounding demographic variables, logistic regression was employed to analyze the barriers that predict a pharmacist's attendance to CPE and National Convention. Further analysis stratified respondents according to their attendance to the local CPE in the previous year. The top barrier to lifelong learning is *scheduling; negative experience with prior learning when still in college* for attending CPE; and *family constraints* for the National Convention. In attending their local CPE in 2011, the *lack of career advancement opportunities* and *ineffective speakers and facilitators* ranked first for attendees and non-attendees, respectively. The barriers presented recurring factors such as time, family, professional advancement and cost.

Keywords: *Lifelong learning, continuing professional education, barriers, pharmacist, survey*

Introduction

Continuing Professional Education (CPE) is a concept which has evolved from the need to find a better platform for professionals to face the challenge of keeping themselves up-to-date with new knowledge, discoveries, and skills in order to perform better in their professions. Lifelong learning activities promote inculcation, assimilation, and acquisition of knowledge, skills, proficiency, and ethical and moral values of registered professionals. The purpose of this is to ensure that pharmacists maintain their knowledge, skills, and competencies to practice throughout their careers in their specific area of practice, improve personal performance, and enhance their career progression^[1]. CPE programs basically consists of a well-planned and structured activities wherein participation among a determined group of professionals are able to meet the requirements of maintaining and improving occupational skills and standards, as well as ethics of the professionals. Compliance with the CPE program is considered a moral obligation of professionals, which is within the context of the concerned professions' code of ethics.

CPE among pharmacists has been proven to change behaviors on health outcomes with respect to pharmacy practice^[2]. In the Philippines, CPE is not mandatory but the Philippine Pharmacist Association (PPhA) provides CPE seminars in local chapters in different regions of the country and gathers pharmacists in an annual National Convention. There are no available data about which barriers prevent pharmacists from attending CPE programs in the country. This study aims to identify barriers to lifelong learning among Filipino pharmacists that deter them to participate in related activities.

Material and Method

A survey was conducted among attendees of the 35 CPE seminars offered by PPhA in 2012 which covered 13 regions of Philippines (5 from Luzon, 3 from Visayas, 5 from Mindanao). A questionnaire was provided after each of the seminars.



Instrument

Using a Likert scale of 1-5, participants rated several items that may act as barriers to lifelong learning. These factors were adapted from the instrument developed by Hanson and Demuth in 2007^[3].

Sampling and Data Collection

Convenience sampling was utilized with a target of 50 respondents per local chapter. If the number of attendees were less than 50, all participants are expected to receive the instrument. For those chapters with more than 50 attendees, the survey forms were randomly provided to pharmacists at the end of the program. From the total number of attendees, the target number of respondents was computed at 2337. It is noted that only 35 out of the 48 conducted CPE seminars were sampled in the study.

Data Analysis

For the demographics, Epi Info was used to regroup continuous demographic variables into intervals to lessen the number of response categories before determining their measures of central tendency which will be used for the analysis of the barriers to attending CPE seminars and national convention. Missing data were not included in the calculations. Ranking was done using the mean and standard deviation.

To determine possible confounding variables, odds ratios were computed to determine the association of the response (attended/not attended CPE or National Convention) and the demographic variables. Other tests of statistical significance (i.e. Yates corrected chi-square, *p-value*, and confidence interval) were further used to determine the strength of the association. Demographic variables were converted to binary data in order to be analyzed using chi-square test with a confidence level set at 95%. Also, logistic regression was performed to get a ranking of the barriers to lifelong learning adjusted for the confounding variables. Missing data were included in the calculation, with their values automatically calculated by Epi Info™ using imputations. The data were further analyzed according to the attendance of respondents to the PPhA-provided CPE in 2011.

Results

From a total of 5740 registered pharmacists who attended all PPhA-provided CPEs all over the Philippines in 2012, the sample population for the study was computed at 2337. The response rate was only at 37.4% (n=873). However, only 742 questionnaires were usable for the analysis.

<u>Age</u>	
<25	78(11.4)
25-34	230(33.5)
35-44	195(28.4)
45-54	101(14.7)
>54	83(12.1)
<u>Civil Status</u>	
Single	303(37.3)
Married	493(60.7)
Separated/Annulled	16(2.0)
<u>Highest Educational Attainment</u>	
Bachelor's Degree	735(91.5)
Master's Degree	24(3.0)
PharmD	37(4.6)
Doctoral Degree	7(0.9)
<u>Years of Practice</u>	
<10	251(41.4)
10-19	195(32.1)
20-29	98(16.1)
30-39	48(7.9)
>39	15(2.5)
<u>Current Employment</u>	
Temporary	125(17.4)
Permanent	595(82.6)
<u>Current Practice Setting</u>	
Community/Retail	595(73.7)
Hospital/Clinic	119(14.8)
Manufacturing/Industry	12(1.5)
Government Service	43(5.3)
Academe	14(1.7)
Others	24(3.0)
<u>Employment Position</u>	
Pharmacist-owner	201(26.1)
Manager/Principal Staff Pharmacist	130(16.9)
Staff Pharmacist	440(57.1)
<u>Regions</u>	
Luzon	469(53.7)
Visayas	212(24.3)
Mindanao	192(22.0)
<u>CPE 2011</u>	
Attended	588(70.1)
Absent	251(29.9)
<u>National Convention</u>	
Attended	95(11.5)
Absent	733(88.5)

The identified confounders for respondents who attended and did not attend the 2011 PPhA National Convention were age, civil status, geographic location, and years of practice. On the other hand, in attending/not attending the national convention, only the current practice setting was identified as a confounder.

Barriers to lifelong learning were ranked according to the mean values computed from the answers of

Table 1. Demographics of Respondent Pharmacists (n=873)

Variable	No. (%)
<u>Sex</u>	
Female	786(94.2)
Male	48(5.8)



all respondents using the Likert-scale questionnaire wherein the higher the mean, the higher is the rank (Table 2). Controlling for the identified confounding variables using logistic regression analysis, the results are shown in Tables 3 and 4. Analysis of the various factors was made further by stratifying the respondents according to their attendance/non-attendance to the PPhA-provided local CPE in the previous year adjusted for current practice setting (Table 5 and 6).

Table 2. Ranking of Barriers to Lifelong-Learning Based on Mean Scores

	Rank	Mean(±SD)
a. Scheduling (location/distance/time) of group learning activities	1	3.4(1.3)
b. Job constraints	2	3.3(1.4)
c. Cost of participation in learning	3	3.2(1.3)
d. Ineffective speakers and facilitators	4	3.1(1.4)
e. Lack of information about available learning opportunities	5	3.1(1.3)
f. Uninteresting topics	6	3.0(1.4)
g. Lack of relevant learning opportunities known to be available	7	3.0(2.0)
h. Lack of career advancement opportunities as a result of participating in learning activities	8	3.0(1.4)
i. Lack of quality of learning activities	9	2.9(1.3)
j. Lack of learning opportunities to match your learning style	10	2.9(1.2)
k. Professional burnout	11	2.9(1.3)
l. Family constraints (eg, spouse, children, personal)	12	2.9(1.4)
m. Lack of recognition for participating in learning activities	13	2.9(1.5)
n. Low personal priority of learning in relation to other activities	14	2.8(1.3)
o. Negative experience with prior learning within pharmacy CPE	15	2.6(1.3)
p. Negative experience with prior learning when still in college	16	2.6(1.3)

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Discussion and Conclusion

The demographic characteristics of the sample in this study do not depart from the global and local workforce trends mentioned in literature. According to the 2012 FIP Global Pharmacy Workforce Report^[4], gender distribution of

pharmacists in the Philippines is approximately 90% female. The report is consistent with the sample in this study where across all regions there are more female pharmacists than male. Overall, majority of the Filipino pharmacists are within the age bracket of 25 to 54 years.

In this study, majority are holders of Bachelor's degree. What can be considered new in this study is the proportion of Doctor of Pharmacy (PharmD) graduates practicing in the country. The PharmD program is only offered by one university in the

country, and the number of graduates is expected to increase over the next years. Across all regions, community pharmacy is consistently the most common practice setting, while hospital ranks

second. Based on a local study in 2008, this remains relatively unchanged with the data showing about 77% of pharmacists practicing in community, about 15% in hospital sector, about 7% in the industry and about 0.5% in the academe^[5]. The distribution of pharmacists among the major islands is also similar to the 2005 study by the Department of Health on



Table 3. *Ranking of Barriers to Attendance to CPE*

in Visayas and Mindanao. Such reflects the greater

	Rank	Odds Ratio	P-Value
a. Negative experience with prior learning when still in college	1	1.2640	0.1449
b. Lack of learning opportunities to match learning style	2	1.2026	0.3012
c. Cost of participation in learning	3	1.1555	0.1907
d. Lack of career advancement opportunities as a result of participating in learning activities	4	1.1154	0.3713
e. Lack of quality of learning activities	5	1.0815	0.6668
f. Professional burnout	6	1.0509	0.7195
g. Lack of recognition for participating in learning activities	7	1.0338	0.8354
h. Uninteresting topics	8	1.0248	0.8728
i. Lack of information about available learning opportunities	9	1.0128	0.9257
j. Family constraints (eg, spouse, children, personal)	10	0.978	0.8234
k. Low personal priority of learning in relation to other activities	11	0.9556	0.7387
l. Ineffective speakers and facilitators	12	0.9471	0.7037
m. Job constraints	13	0.9273	0.4966
n. Lack of relevant learning opportunities known to be available	14	0.9186	0.5273
o. Scheduling (location/distance/time) of group learning activities	15	0.7466	0.014
p. Negative experience with prior learning within pharmacy CPE	16	0.6529	0.011

Adjusted for age, civil status, years of practice, and geographic location

eagerness among pharmacists from Visayas and Mindanao to update themselves. It was also found out that for both the local CPE seminar and the National Convention, attendees were more likely to

Table 4. *Barriers to Attending the PPhA National Convention*

	Rank	Odds Ratio	P-Value
a. Family constraints (eg, spouse, children, personal)	1	1.3104	0.0632
b. Lack of career advancement opportunities as a result of participating in learning activities	2	1.2969	0.0549
c. Ineffective speakers and facilitators	3	1.1910	0.4124
d. Low personal priority of learning in relation to other activities	4	1.1295	0.5261
e. Lack of quality of learning activities	5	1.1260	0.6469
f. Lack of learning opportunities to match your learning style	6	1.1164	0.6576
g. Negative experience with prior learning when still in college	7	1.0946	0.6982
h. Negative experience with prior learning within pharmacy CPE	8	1.0098	0.968
i. Job constraints	9	0.9668	0.8344
j. Lack of information about available learning opportunities	10	0.8939	0.5808
k. Uninteresting topics	11	0.8726	0.5465
l. Lack of relevant learning opportunities known to be available	12	0.8710	0.4556
m. Cost of participation in learning	13	0.8286	0.2393
n. Professional burnout	14	0.8196	0.3238
o. Lack of recognition for participating in learning activities	15	0.8022	0.3249
p. Scheduling (location/distance/time) of group learning activities	16	0.7561	0.1189

Corrected for current practice setting

be pharmacists with longer years of practice.

Health Resources and Health Workforce which showed that 57.2% of the pharmacists practice in Luzon, 23.8% in Visayas, and 19% in Mindanao^[6]. It must be noted, however, that this study has major limitations. Almost half of all the CPE seminars conducted in 2012 were in Luzon. Although by merely considering the number of local chapters formed in Luzon, it can already be said that the large number of pharmacists are based in Luzon. In spite of this, it was found out interestingly that there are a larger percentage of participants for the local CPE and national convention 2011 coming from Visayas and Mindanao. This was further validated using the odds ratio, where the odds of attending CPE were greater for those based

The top three barrier of lifelong learning based on mean score values are the following: 1) *scheduling (location/distance/time) of group learning activities*, 2) *job constraints*, and, 3) *cost of participation in learning*. Pharmacists are known to have rigid working hours, and attendance to CPE would affect work performance and a cost to their remuneration^[7]. The odds of attending lifelong learning activities among pharmacists in the community setting is lower (0.8612) than among pharmacists from other practice settings, for both local CPE and national convention. Also, *job constraints* is an important consideration in



Table 5. Ranking of Barriers to Lifelong Learning among Attendees to Local CPE

	Rank	Odds Ratio	P-Value
a. Lack of career advancement opportunities as a result of participating in learning activities	1	1.2476	0.1073
b. Family constraints (e.g. spouse, children, personal)	2	1.2013	0.2528
c. Lack of quality of learning activities	3	1.1889	0.5708
d. Negative experience with prior learning within pharmacy CPE	4	1.0666	0.8183
e. Low personal priority of learning in relation to other activities	5	1.0441	0.8417
f. Lack of learning opportunities to match your learning style	6	1.0274	0.9337
g. Lack of information about available learning opportunities	7	0.9906	0.9659
h. Ineffective speakers and facilitators	8	0.9869	0.9530
i. Job constraints	9	0.9794	0.9056
j. Negative experience with prior learning when still in college	10	0.9710	0.9145
k. Scheduling (location/distance/time) of group learning activities	11	0.9643	0.8491
l. Uninteresting topics	12	0.9097	0.6926
m. Cost of participation in learning	13	0.9095	0.5937
n. Lack of recognition for participating in learning activities	14	0.8997	0.6778
o. Professional burnout	15	0.8380	0.4322
p. Lack of relevant learning opportunities known to be available	16	0.7505	0.1804

Adjusted for current practice setting

Table 6. Barriers to Lifelong Learning among Non-attendees to Local CPE

	Rank	Odds Ratio	P-Value
a. Ineffective speakers and facilitators	1	5.4173	0.0433
b. Family constraints (eg, spouse, children, personal)	2	2.4835	0.0884
c. Job constraints	3	1.8339	0.4022
d. Negative experience with prior learning within pharmacy CPE	4	1.6240	0.5115
e. Low personal priority of learning in relation to other activities	5	1.5944	0.4793
f. Lack of career advancement opportunities as a result of participating in learning activities	6	1.5266	0.6464
g. Professional burnout	7	1.4216	0.5920
h. Lack of relevant learning opportunities known to be available	8	1.3864	0.5454
i. Negative experience with prior learning when still in college	9	1.3495	0.6290
j. Lack of learning opportunities to match your learning style	10	1.3177	0.7501
k. Lack of quality of learning activities	11	0.9923	0.9920
l. Lack of information about available learning opportunities	12	0.5274	0.3094
m. Lack of recognition for participating in learning activities	13	0.4132	0.2076
n. Cost of participation in learning	14	0.3753	0.1049
o. Uninteresting topics	15	0.2965	0.1726
p. Scheduling (location/distance/time) of group learning activities	16	0.1317	0.0175

Adjusted for current practice setting

attending lifelong learning activities. Specifically, pharmacists hired as temporary staff have lower odds (0.8016) of attending the CPE than permanent employees. It is not surprising to see cost as a barrier as this finding is consistent with other studies.

For the analysis of barriers to attending CPE, confounders were identified. These were: 1) age, 2) civil status, 3) years of practice, and 4) geographic location. Adjusting for these confounders, the top three barriers are: 1) *negative experience with prior learning when still in college*, 2) *lack of learning opportunities to match learning style*; and 3) *cost of participation in learning*. The lack of confidence that may have developed during undergraduate years (e.g. poor grades) may hold a bearing as to how they shall perceive lifelong learning

after college^[8]. This is the reason why it has been suggested to incorporate the values of lifelong

learning as early as college, so that even at the individual level, there is an internal motivation to continually update one's knowledge^[4]. The second barrier may be discussed in relation to the 21% of

pharmacists who believed CPE still needs improvement. Since for the past 65 years, Filipino pharmacists have been only exposed to lecture as an instruction medium. Other course format may be explored and used.

In attending the National Convention, the only confounder identified is the current practice setting. This may be because pharmacists who are working in the community are found more likely to attend the national convention. Adjusting for the confounder, the top three barriers are: 1) *family constraints (e.g., spouse, children, personal)*, 2) *lack of career advancement opportunities as a result of participating in learning activities*, and 3) *ineffective speakers and facilitators*. In contrast to overall ranks



calculated by mean scores, *family constraints* was considered as one of the least perceived barrier. Because national conventions are usually a 2 to 3-day affair held in different venues across the Philippines, family obligations can be a major consideration especially if their houses were located in other provinces/cities. Also, ineffective speakers and facilitators were less inviting more especially during national convention. In the recent years, PPhA has been inviting international and well-known speakers to ensure learning from experts in various fields of pharmacy.

Stratification of sample was employed to determine if barriers to participation in lifelong learning activities will vary depending if they have previously attended/not attended the 2011 CPE. The top three barriers to attending the lifelong learning activities to both attendees and non-attendees of the 2011 CPE seminar were almost the same factors listed in the top five barriers for attendance to National Convention (i.e. *family constraints, lack of career advancement opportunities as a result of participating in learning activities, lack of quality learning activities, ineffective speakers and facilitators*). The notion that the participation to the national convention will not directly lead to one's career advancement is the topmost barrier for those who have attended the CPE. On the other hand, for those who were not able to attend the 2011 CPE seminar, their main concern was *ineffective speakers and facilitators*.

While the study aims to represent the views and motivation of Filipino pharmacists across the country, the sample population may be insufficient. Aside from a number of regions in Luzon, Visayas, and Mindanao that were not covered, the National Capital Region where offices of most pharmaceutical companies and healthcare facilities are located and hundreds of pharmacists are working, was not also sampled. Since there is no real functional local chapter in the National Capital Region at the time of the study, there was no PPhA-provided CPE conducted in 2012.

Demographic variables, such as age, years of experience, practice setting, geographical location, and educational attainment, interplay which interact with a Filipino pharmacist's valuation of lifelong learning. Although voluntary, lifelong activities such as CPE seminars and annual National Convention are conducted for Filipino pharmacists. Barriers have been found that prevent professionals to participate to these activities. The three most perceived barriers to lifelong learning were *cost of participation in learning, job constraints and scheduling of group learning activities*. In ranking the barriers to attending the local CPE program, the most perceived was *negative experience with prior learning when still in college* followed by *lack of learning opportunities to match learning style* and *cost of participation in learning*. On the other hand, the most perceived barriers to attending the PPhA National Convention were *ineffective speakers and facilitators, lack of career advancement opportunities as a result of participating in learning activities, and family*

constraints. These barriers were consistently associated with family, cost, time, or career advancement.

It is recommended to consider charging for CPE activities covered by the pharmacist and employer; conduct more than one CPE activity in regions in the Visayas and Mindanao; and to also include non-CPE attending pharmacists in future studies to obtain a more accurate list of barriers to participation.

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References

1. Rouse M. Continuing professional development in Pharmacy. Am J Health-Syst Pharm. 2004 Oct 1;61(19):2069-76.
2. Aziz Z, Nyuk Jet C, Abdul Rahman S. Continuing Professional Development: Views and Barriers Toward Participation Among Malaysian Pharmacists. Eur J Soc Behav Sci 2013 Jan;4(1):713-26.
3. Hanson A, Bruskiwitz R, Demuth J. Pharmacists' Perceptions of Facilitators and Barriers to Lifelong Learning. Am J Pharm Educ. 2007 Aug 15;71(4):67.
4. International Pharmaceutical Federation. 2012 FIP Global Pharmacy Workforce Report. Netherlands: Fédération Internationale Pharmaceutique; 2012. 8-18 p.
5. Loquias M, Robles Y. Demand and Supply of Pharmacists in the Philippines. Analysis of Demand and Supply of Selected in Demand Human Resources for Health: Nurses, Pharmacists, Physicians, Physical and Occupational Therapists, and Speech Pathologists. Unpublished Observations 2008.
6. Loquias M, Robles Y. Pharmacy Workforce in the Philippines: Production Trends. The UP Manila Journal. 2011;14.
7. Chong M, Sellick K, Francis K, Abdullah K. What Influences Malaysian Nurses to Participate in Continuing Professional Education Activities? Asian Nurs Res. 2011 Mar; 5(1):38-47.
8. Scott-Clayton J, Rodriguez O. Development, Diversion, or Discouragement? A New Framework and Evidence On the Effects of College Remediation. Cambridge: National Bureau of Economic Research; 2012.



AUTHORS' CONTRIBUTIONS

Authors contributed equally to all aspects of the study.

PEER REVIEW

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CONFLICTS OF INTEREST

The authors declare that they have no competing interests.