

Evaluation of community pharmacy internship programme in the Philippines

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Abstract

Background: The community pharmacy internship programme is an integral part of pharmacy education in the Philippines. Its evaluation is necessary to continuously develop a comprehensive programme based on the needs and changing role of the profession.

Aims: This study aimed to evaluate the community pharmacy internship programme among the Philippine Association of Colleges of Pharmacy (PACOP) accredited schools in Metro Manila, Philippines.

Method: The study utilised a cross-sectional, descriptive research design, using a self-administered questionnaire as the method of data collection. The data was analysed using the IBM Statistical Package for Social Sciences® Statistics version 21 software.

Results: The overall response rate was 66.1% (n=267). Generally, students rated their internship experiences positively and perceived high level of satisfaction with how the programmes were carried out.

Conclusion: The students perceived that the community pharmacy internship programme was effective in attaining its learning outcomes, despite limitation of participation in internship activities and problems and barriers encountered.

Keywords: *Community Pharmacy; Internship Programme; Learning Outcomes; Pharmacy Education*

Introduction

In the Philippines, an internship program is currently part of the curriculum in pharmacy education which allows students to experience real practice in community, hospital, manufacturing or industrial pharmacy settings. Based on the Philippine pharmacy law, students are required to fulfil a total of 960 hours of internship which must be divided into 160-hour minor internships in the community, hospital and manufacturing pharmacy sectors and a 480-hour major internship in any chosen field. The completion of the internship program, both minor and major internships, is one of the requirements to be a candidate for the licensing examination. However, the approved proposal on policies and standards in pharmacy education by the Commission on Higher Education (CHED) – Philippines in 2006 has resulted in the inception of major curricular reforms including a change in the number of internship hours from 160 to 200 hours per minor internship, while 360 hours of major internship shall be spent in any or all of the approved establishments at the choice of the candidate (CHED, 2006). One of the goals of curricular development is to produce graduates who are competent in assuming roles in a patient-oriented pharmacy practice (Robles *et al.*, 2009) to adapt to the changing role of the profession from being product-based to patient care practice.

The Philippine Association of Colleges of Pharmacy (PACOP), an organisation of a number of Philippine pharmacy schools which sets standards to ensure the highest quality of pharmacy education, established internship guidelines that shall be followed by its member schools. Each program has its own set of specific objectives and competencies that students should be able to attain by the end of the internship.

The first experiential education being undertaken by pharmacy students is the community pharmacy internship which provides interns with the unique opportunity of being the most accessible healthcare providers in the community (PACOP, 2009). This premise shall therefore be congruent with the activities performed by and competencies required from the students in the community setting. Nevertheless, a study by Binos *et al.* (2010), demonstrated that pharmacy students were least positive towards pharmacy practice settings because of the negative experiences of students during internship. Because of the lack of updated studies regarding the community pharmacy internship, an evaluation of the program is therefore necessary so that appropriate measures may be instituted for its improvement. Specifically, the study aimed to: a) assess the students' participation to the learning activities provided

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community settings; b) identify problems and barriers encountered by students during internship in the community; c) describe knowledge, skills and attitude gained by the students after community pharmacy internship; and d) describe the level of satisfaction of the students based on their internship experiences in the community.

Method

A cross-sectional, descriptive research design was employed in this study using a survey as the method of data collection. The study population consisted of students from the ten member schools of PACOP in Metro Manila, who were officially enrolled in the second semester of the academic year 2013-2014 and had completed their minor community pharmacy internship most recently. The statistically computed sample size was thirty nine, but for convenience purposes, forty students were purposively sampled from each school.

The research project was reviewed by the University of the Philippines Manila Review Ethics Board (UPMREB) prior to its implementation. Permission letters were sent to participating schools with endorsement from PACOP. Collection of data depended on the approval and discretion of each school as to whether it would allow the researchers to administer the questionnaire themselves or would require a school representative to facilitate conducting the survey. For schools that preferred the latter and administered the questionnaire themselves, instructions on the data collection procedure were provided by the researchers. Furthermore, the time and place for the administration of survey was set by the school based on the availability of students.

The survey questionnaire was synthesised from the PACOP Internship Manual and Student-Service Learning Survey used by Jackel (2011). A five-point Likert scale type of question, measuring the extent of agreement of the respondents to each of the learning outcomes the student is expected to attain after internship (5 = strongly agree and 1 = strongly disagree) was utilised. The knowledge and skills questions were based from the core competencies stated in the PACOP Internship Manual, while questions on attitude were adapted from Student-Service Learning Survey used by Jackel (2011). The core competencies included: a) Communication Skills (three items); b) Ability to provide Drug Information (one item); c) Dispensing Skills (six items); d) Patient Counselling (two items); e) Pharmacy Management (three items); f) Inter-professional Relationship (one item); g) Legal and Ethical Practice (three items); h) Judgment and Decision Making Skills (one item); and i) Attitude towards Personal and Professional Development (sixteen items), with a total of thirty-six items. To validate the instrument, the questionnaire was piloted on ten students and was subsequently modified. Participants were given a brief orientation about the project and the informed consent. They were asked to read, comprehend and sign the informed consent form prior to self-administration of questionnaires. The entire survey took about ten to fifteen

minutes and a letter of gratitude was then given to each student who participated.

The collected data from the survey was encoded in the Microsoft Office Excel 2007[®]. The IBM Statistical Package for Social Science[®] Statistics version 21 was used for descriptive statistical analysis.

Results

Student and internship characteristics

Overall the response rate was 66.1% (n=267). The majority of the respondents were females (n=210 78.9%) undertaking the BS Pharmacy program (n=250 84.7%) and from private institutions (n=218 85.5%). There were eight PACOP accredited pharmacy schools composed of seven private schools and one public school, which participated in the study (Table II). The majority of the students undertook community internship in chain drugstores (n=249 95.4%) during their second year level (n=121 45.5%) (Table I).

Table I: Demographic characteristics of student respondents

Demographics	Community N=267	
Age in Years		SD
Mean	19.29	2.86
Median	19	
Mode	18	
Sex		(%)
Female	210	(78.9)
Male	56	(21.1)
Course		
BS Pharmacy	250	(94.7)
BS Industrial Pharmacy	14	(5.3)
Type of School		
Public/State University	37	(14.5)
Private	218	(85.5)
Year level when internship was completed		
First Year	94	(35.3)
Second Year	121	(45.5)
Third Year	46	(17.3)
Fourth Year	5	(1.9)
Fifth Year	0	(0)
Type of Drugstore		
Chain Drugstore	249	(95.4)
Independent Drugstore	11	(4.2)
Others	1	(0.5)

Participation in different internship activities

Other than orientation to activities, the second most frequently performed activity was recording entries in prescription books followed by receiving of prescriptions. Patient counselling and pricing of prescription were the least participated in activities (Table III).

Table II: Frequency distribution of PACOP accredited schools who participated in the study

School	Type of School	Frequency (%)
A	Private	25 (9.4)
B	Public	37 (13.9)
C	Private	37 (13.9)
D	Private	40 (15.0)
E	Private	27 (10.1)
F	Private	23 (8.6)
G	Private	0 (0.0)
H	Private	39 (14.6)
I	Private	39 (14.6)
J	Private	0 (0.0)
Total		267 (66.1%)

Table III: Mean scores of level of participation to different internship activities in community pharmacy internship

Activities in Community Pharmacy Internship	Mean	SD
Orientation to different activities	2.59	0.59
Recording of Entries in Prescription books or other required record books	2.46	0.74
Receiving and reading of prescriptions	2.44	0.71
Tour of the pharmacy establishment	2.41	0.66
Labelling and packaging of filled prescriptions	2.38	0.76
Proper storage and safekeeping of drug products	2.30	0.88
Interpreting and checking prescriptions	2.28	0.75
Dispensing filled prescriptions	2.26	0.91
Filling and compounding prescriptions	2.23	0.78
Inventory of drugs	2.02	0.92
Extemporaneous compounding of prescriptions	1.79	0.81
Patient Counseling	1.41	0.85
Pricing of prescriptions	1.30	0.97
Total Mean Score	2.17	0.39

3 – Performed the activity most of the time (A); 2 – Performed the activity but to a limited extent (B); 1 – Not performed, but was able to observe the activity (C); 0 – Not performed the activity nor observed (D); NA – The activity was not provided by the establishment (E)

Problems and barriers encountered during internship

The most frequently cited problems were increased idle time, followed by insufficient supervision by the preceptor and lack of preparation for internship practice (Table IV).

Learning outcomes and level of satisfaction

Students perceived that they had gained additional knowledge mostly on drug classification, dosage forms, therapeutic uses, frequency and modes of administration and least on patient counselling. Communication skills were the most improved, while becoming respectful, sensitive and understanding when dealing with other people were the most developed attitudes. Finally, students perceived a high level of satisfaction with how internship was carried out. (Table V)

Table IV: Problems and barriers encountered by pharmacy interns during their internship

Problems and Barriers	N=267	(%)
Increased Idle time	92	(34.5)
Insufficient supervision of the preceptor	67	(25.1)
Lack of preparation for internship practice	66	(24.7)
Hectic nature of work environment	60	(22.5)
Stress/ Burnout	56	(21.0)
Lack of orientation on the roles and responsibilities of interns	55	(20.6)
Lack of integration between theoretical knowledge and activities	50	(18.7)
Performed activities not related to pharmacy practice	42	(15.7)
Lack of willingness to perform activities	12	(4.5)
The preceptor is not a pharmacist	4	(1.5)
Lack of rotation to the different areas	NA	NA

Discussion

A Delphi survey study concluded that the most important activity of a pharmacist in a community/ambulatory care setting is to provide health education and counselling to patients (McDermott *et al.*, 1995). However, the current study revealed that dispensing activities were generally the most frequent activities in which the interns participated. Many students were not able to perform actual counselling, but were only able to observe the activity. Barredo and Navasca (2004) stated this can be understood since some community pharmacies do not allow interns to conduct actual patient counselling. Limited prior knowledge of students on drugs could be a factor since the only pre-requisite students needed to undergo internship were pharmaceutical calculations, dosage forms, drug delivery system and community pharmacy; and these still vary among pharmacy schools. Although students were able to observe patient counselling, feedback to the students on how well they perform is important. From feedback, students learn what they do well and where improvement is needed (McDermott *et al.*, 1995).

Preceptors may not have fully supervised the interns because they also perform other managerial and business-related functions, in addition to dispensing and counselling activities. Consequently, they may not have adequate time to train the students in the community pharmacy practice. Some interns specifically said "the mentor is often busy...", "unwillingness of the pharmacists to entrust the intern a specific task" and "unwilling to teach". The quality of pharmacy education is directly linked to the quality and effectiveness of its preceptors (ASHP, 2009). Opportunities to participate in practice is essential for learning the profession, hence the managers of teaching pharmacies and the responsible educator have to reserve time for the student. All the staff should partake in the responsibility of having a student present at the pharmacy (Wallman, 2010).

Table V: Mean scores of learning outcomes gained by students following community pharmacy internship

Activities in Community Pharmacy Internship	Mean	SD
Knowledge		
Acquire knowledge on drug classification, dosage forms, therapeutic uses, frequency and modes of administration.	4.39	0.65
Familiarize myself with brand and generic names and manufacturer or distributor.	4.39	0.67
Learn the different types of prescription errors.	4.24	0.80
Understand the different barriers in communication (e.g. environment, patient and personal barriers)	4.20	0.75
Perform all activities in accordance with the laws governing the practice of pharmacy.	3.97	0.83
Gain knowledge on drug procurement and drug inventory management.	3.94	0.87
Enumerate the legal requirements for establishing a pharmacy.	3.89	0.94
Demonstrate comprehension and understanding of the pharmacy laws.	3.82	0.95
Learn more about the business principles of operating a pharmacy.	3.67	0.98
Learn the important components and strategies of effective patient counseling.	3.58	1.10
Skills		
	Mean	SD
Verbal communication when dealing with peers, health care providers and staff (e.g. speaking)	4.19	0.76
Non-verbal communication when dealing with peers, health care providers and staff (e.g. active listening, writing)	4.12	0.73
Filling out a prescription or medication order accurately.	4.01	0.79
Providing drug information (i.e. can identify reliable sources of drug information, evaluate drug literature and disseminate drug information)	3.90	0.80
Identifying prescription errors correctly and quickly (if they exist).	3.82	0.81
Applying functional knowledge while solving problems and making appropriate decision matters pertaining to the area of pharmacy practice.	3.72	0.87
Counseling the patients based on their needs (adjusting to patient needs, proper demonstration of device, among others)	3.54	1.06
Extemporaneous compounding of products and IV admixtures using good aseptic techniques.	3.51	0.99
Attitude		
Become more respectful and sensitive when communicating with others.	4.52	0.64
Recognize my personal strengths and weaknesses in my profession.	4.48	2.55
Understand and appreciate people with diverse backgrounds.	4.44	0.70
Develop realistic ideas about the work world.	4.43	0.64
Develop awareness on community or social concerns in pharmacy practice.	4.41	0.60
Develop my ability to work and learn independently.	4.39	0.72
Develop commitment to making a difference in my profession.	4.38	0.66
Desire more the completion/pursuit of my pharmacy degree.	4.34	0.76
Receive an opportunity to explore a specific career in pharmacy.	4.33	0.80
Gain a sense of personal achievement in community internship.	4.32	0.80
Broaden my future employment possibilities.	4.31	0.78
Demonstrate concern/empathy towards patients and/or clients.	4.29	0.74
Develop self-initiative in my community internship training.	4.27	0.78
Feel that my classroom learning was enriched in my community internship.	4.19	0.82
Narrow my future possible career choices.	4.14	0.93
Collaborate effectively with peers, other health care professionals and patients to optimize patient care.	4.09	0.79
Increase my ability to become a leader.	3.97	0.85
Adhere to the national and international code of ethics for pharmacists.	3.82	0.86

Five-point Likert scale (5=strongly agree; 4=agree; 3=neutral; 2=disagree; and 1=strongly disagree)

Despite the reported problems and barriers, community pharmacy interns have expressed positive experience and satisfaction with internship. In terms of knowledge, skills and attitude, there were no significant differences in the mean scores of students who have completed the internship after one, two, three or four years in the pharmacy course. Since respondents were often engaged in dispensing activities, students have acquired knowledge mostly on drug classification, dosage forms, therapeutic uses, frequency and modes of administration and have familiarised themselves with brand and generic names and the manufacturer or distributor of pharmaceuticals. Nonetheless, Mak *et al.* (2013) reported that concentrating on technical and retailing activities

does not allow the full application of skills or knowledge of students. This means that pharmacists, although valuable, are an under-utilised resource in health care and in the community. Interns can develop skills only in the sector in which they undertake their training. This limitation will inhibit the preparation of early career pharmacists in terms of having the early experience of alternative approaches to patient care and exposure to different team care arrangements (Mak *et al.*, 2013). Moreover, the least knowledge gained by the community pharmacy interns was the different components and strategies of effective patient counselling. If training sites do not offer interns the opportunity to be involved in health care teams and provide patient care, expectations

of interns to deliver patient-centred care may not be met and potentially influence their future career intentions (Mak *et al.*, 2013).

Interestingly, there was a statistically significant difference between sexes in the development of attitude. Male interns had higher mean scores (4.35; SD=0.52) than female interns (4.07; SD=0.50). Also, mean scores between school types were found to be significantly different in the level of satisfaction. Respondents from public schools generally had lower mean satisfaction level than the respondents from private schools. One reason may be the difference in their curriculum. In public school, the traditional internship course was redesigned by allowing students to have an opportunity for experiential learning in a rural setting by living with and among communities. The main objective of the course design was to allow the pharmacy students to appreciate their unique role in community health as a distinct yet equally important member of a healthcare team (Salenga, 2009). Therefore, students from public school may have higher expectations on how internships in drugstores should be carried out. There was also a statistically significant difference in the degree programs, wherein the students taking the Bachelor of Science (BSc.) in Industrial Pharmacy revealed lower scores as compared to BSc. Pharmacy degree. This can be explained by the different curricula focus of each program. Industrial Pharmacy is a unique degree which is focused more on research and development of pharmaceutical products, rather than providing direct pharmaceutical care to patients. Hence, students may perceive themselves as future professionals working in a different pharmacy setting where they can apply theoretical knowledge on research and development of drugs.

There was also a statistically significant difference between types of internship setting which is consistent with the study of Barredo and Navasca (2004). Interns who have been trained from chain drugstores ($\bar{x} = 4.25$, SD= 0.61) have greater scores on internship experience than those who have been trained from independent drugstores ($\bar{x} = 3.67$, SD= 0.89). However, this result could be limited by the large number of responses from chain drug stores compared to independent drugstores and others. Nonetheless, in the Philippines, independent drugstores usually provide a limited number of internship activities and thus no structured learning objectives are given to the students as compared to chain drugstores. Students from independent drugstores therefore will not usually have the opportunity to experience sufficient community pharmacy practice, and consequently dissatisfaction may result.

Accepting the full continuum of learning activities used in workplace learning can improve the education program, as well as learning during internships (Wallman, 2010). Since pharmacy has shifted its role to a professional health practice, educational curricula should therefore give emphasis on the connection between the theoretical knowledge and the real time practice in the community pharmacy by engaging the students into more productive and patient-centred practice.

Limitations of the Study

Several limitations of this study are noteworthy. First, the students were asked to recall their internship experience eight to nine months previously. It is possible that some individuals may have had difficulty in recalling their beliefs and values of six to ten months earlier (Carter and Segal, 1989). Also, the findings of the study may not be representative of all interns from all pharmacy schools in the Philippines, especially since the data collection procedure employed purposive sampling techniques. Evaluation from students under non-PACOP member schools were not included. Nevertheless, the pharmacy internship program is likely to be the same across different pharmacy schools, whether PACOP or non-PACOP accredited, since internship is already part of pharmacy curriculum and a requirement prior to the licensing examination. It is also suggested to assess the learning outcomes of students who have undertaken the major internship in community pharmacy as their perception towards their learning experiences may provide different results as compared to those who have completed the minor internship. Furthermore, since students were from a range of year levels, the selection criteria for participants could include only students who have completed the community internship after a specific year level.

Another limitation faced by the study is the questionnaire itself which was lengthy. As a result, the respondents may not be willing to answer the questionnaire. Bias may have been potentially introduced after the questionnaire was administered by the researchers for some students and by the school representative for others. Modes of data collection by questionnaire, including the method of contacting the respondents, the medium of delivering the questionnaire to respondents, and the administration of the questions are likely to have different effects on the quality of the data collected (Bowling, 2005).

Conclusion

The study suggests the characteristics of community pharmacy practice internships in the Philippines. Generally, students perceived that they had positive experience, satisfaction and learning outcomes during the internship program. It is, however, significant to note that most of the learning outcomes gained by the students revolved around the usual technical roles of community pharmacists such as dispensing and retailing activities. Training on the provision of pharmaceutical care and pharmaceutical research activities, which are current trends in the pharmacy profession, were lacking in the internship program. With the paradigm shift of the pharmacy profession, an internship program designed to engage interns in activities related to clinical practice and scientific learning is highly recommended. Also, it is suggested that the educational institutions and pharmacy organisations shall set standards for the community pharmacy internship which shall provide similar learning experiences among the students. A periodic evaluation of the internship program is also recommended to enable institutions to improve and adjust their respective courses

to develop students and to meet the demands of the pharmacy profession.

Authorship Contribution

Each author has participated sufficiently and substantially in the completion of this research.

Disclosure of potential conflict of interest

The authors declare that they have no competing interests.

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