fip International Pharmaceutical Federation

Students' and preceptors' experiences and perceptions of a newly developed community pharmacy pharmaceutical care clerkship

ROSEMIN KASSAM

Faculty of Pharmaceutical Sciences, University of British Columbia, Vancouver, BC, Canada

Abstract

Introduction: A new, senior year community pharmaceutical care (PC) clerkship experience was introduced at the University of British Columbia. The objective of this project was to analyze the students' and preceptors' experiences with the newly developed clerkship.

Materials and methods: A qualitative approach using survey instruments was utilized to obtain feedback from students and preceptors.

Results: Over 85% of the student and preceptor surveys were returned. While students ranked their clerkship experience high, more than 25% remarked that they were disappointed with the depth and breadth of the opportunities provided to hone PC related skills. The preceptor surveys supported the students' results. One of the most common request made by preceptors was for the university to offer workshops where the clerkship expectations and processes could be clarified.

Discussion: Although both students and preceptors approved of the clerkship syllabus, the experience fell short of providing students with a fully effective learning experience.

Keywords: *Community clerkship, evaluation, pharmaceutical care, preceptor*

Introduction

The Canadian Council for Accreditation of Pharmacy Programs expects pharmacy schools across Canada to offer an organized curriculum designed to prepare its graduates to become general practitioners of pharmacy. This includes developing the knowledge, skills, attitudes, and values that are necessary for the provision of pharmaceutical care (PC), as well as promoting self-learning processes, interprofessional collaboration, critical thinking and research skills (Association of Faculties of Pharmacy of Canada, 2004). The Faculty of Pharmaceutical Sciences (the Faculty) at the University of British Columbia (UBC) aspires to embrace this responsibility by committing to expand its undergraduate practice experience program, commonly referred to as clerkship experiences in Canada.

As part of this commitment, the Faculty introduced two new PC clerkship experiences in the senior year of its 4-year baccalaureate program, one to be completed in the community pharmacy setting and the other in the institutional setting. The PC model embraced by these clerkships was based on the Strand and Hepler philosophy and process of care (Hepler & Strand, 1990). These two clerkships built on an earlier clerkship experience delivered in the summer semester between the third and fourth year of the program, which consists of a 4-week distribution-focused community pharmacy experience (also referred to as the externship program). The Structured Practice Education Programs (SPEP) office at the Faculty coordinates all clerkship programs.

The specific clerkship being evaluated in this paper is the senior year community pharmacy PC clerkship experience. This clerkship is a mandatory six-credit course, run between January and the end of April, and consisting of two 4-week experiences completed at two different community pharmacies. To ensure buy-in from and sustainability of preceptors, a structured focus group process was utilized to support the development of the syllabus of this clerkship. The focus group was involved in: (1) identifying the skills necessary to practice PC; (2)

developing the specific learning activities which could foster these skills; (3) suggesting the minimum number of each activity students should engage in each week; (4) identifying the minimum desired weekly student-preceptor contact time required to discuss issues related to learning and evaluation; (5) developing a proposed 4-week schedule for preceptors to use if they chose; and (6) developing a student performance evaluation tool. The development process for the community clerkship has been discussed at length in an earlier publication (Kassam, 2003).

The objective of this project was to analyze the students' and preceptors' experiences and perspectives of the newly developed community pharmacy PC clerkship.

Materials and methods

Participants

All 122 senior (fourth year) students who registered in the community pharmacy PC clerkship in the winter semester of the 2000–2001 academic year completed their 8-week clerkship at two different pharmacies.

Design

As part of the Faculty's ongoing quality assurance program, a program evaluation approach was used to assess the impact of the newly developed community pharmacy PC clerkship experience on students' learning. The evaluation was conducted from 2000 to 2002. Ethics approval was obtained through the UBC Office of Research Services.

Each experience was 4-weeks in length, and consisted of the same goals, learning objectives and activities. Students identified several placement locations that they preferred. The placement process considered students' lodging and travel preferences and the availability of a community site during a given month. Only those community pharmacies that had agreed to provide students with the opportunities to participate in the designated learning activities, when they were contacted by telephone by the SPEP Director, were used as clerkship sites. Once these sites were identified, students were randomly placed in one of their preferred community pharmacies across British Columbia. While some students completed their two 4-week community PC experiences consecutively, others had an institutional clerkship experience scheduled in-between their two community experiences. Students did not receive remuneration for their clerkship. All student identifiers were removed prior to collating and analyzing the data for this project, to preserve student anonymity.

Each community site took two students on different months, over the span of the clerkship period (January–April). While some sites had more than one preceptor involved in the student's supervision, it was the primary preceptor who was responsible for structuring the learning experience and for providing the student with formative and final summative evaluation. In addition, all 122 primary preceptors were invited to provide feedback from their experience with the clerkship to the SPEP office at the end of the clerkship period.

Intervention

The clerkship syllabus was designed to provide students with the opportunity to hone competencies necessary to practice PC. Briefly, the students within the clerkship were expected to assess their patients' drug-related needs and manage those needs through appropriate interventions, education, monitoring plan and follow-up care. Students were required to participate in a variety of direct and non-direct patient care activities that would give them the opportunity to take on such responsibilities. Table I summarizes the expected activities students needed to partake in during their clerkship experience at each community pharmacy. Although a minimum number for each of the learning activities was outlined to ensure all students received an acceptable level of opportunity to practice these skills, students and preceptors were encouraged to go beyond the minimum number. With the exception of the comprehensive PC and project activities, students were expected to successfully complete the minimum requirement to pass their clerkship.

Table I.   Community pharmacy pharmaceutical care activities.

Activity description	Minimum to be completed
Assess patients with new prescriptions and resolve/prevent drug-related problems (DRPs)	10 per week
Assess patients with refill prescriptions and resolve/prevent DRPs	10 per week
Present and discuss one prescription and one non-prescription drug class with preceptor	2 per week
Provide PC to patients requesting non-prescription products	10 per week
Provide follow-up to patients encountered in activities #1, 2, 4 and 9	10 per week
Provide drug information to patients, preceptors and other health care providers	2 per week
Shadow another health care professional for $\frac{1}{2}$ to 1 day	1 per clerkship
Discuss pharmacy practice issues related to PC (barriers and opportunities)	Every week
Provide comprehensive PC	1 per week
Initiate and complete a patient care project	1 over the entire 8-week clerkship

The SPEP faculty and the focus group participants recognized that comprehensive PC was not an activity routinely carried out in most community pharmacies across British Columbia. The group, therefore, suggested that community pharmacy preceptors be given a couple of years to explore how they would be able to provide students with the opportunity to engage in comprehensive PC, before students' clerkship grade was contingent on achieving this activity. Similarly, the focus group suggested that preceptors would need 2 years to become comfortable with the project activity before the students' clerkship grade was reliant on completing a project, as this also would be a new concept for most preceptors. Thus, while these two activities were included as mandatory activities to be completed by all students, students were not penalized if they did not meet the minimum number outlined for these activities, as long as their preceptor included a note in the students' evaluation providing an explanation as to why the minimums were not met.

As evidence to support their involvement in the designated clerkship activities, students were expected to submit a learning portfolio at the end of each of the two community pharmacy experiences. The documentation to be included in the student portfolios were identified by the SPEP faculty and were intended to represent artifacts of students' work; many of these documents have been discussed in greater detail elsewhere (Kassam et al., 1999). Prior to the start of the clerkship, all students were asked to purchase and review the clerkship manual, attend a mandatory face-to-face orientation session and complete an open book, on-line quiz reinforcing the clerkship expectations and requirements discussed during the orientation session (this included a discussion on the required documentation students had to submit in their portfolios). Preceptors were also provided with a copy of the clerkship manual, but no formal training was offered.

Data collection

Both qualitative and quantitative methods were used to obtain feedback from students and preceptors regarding their clerkship experiences. The survey instruments for preceptors and students included questions that required selecting responses from a predefined scale and short answers. The students were asked to complete two online surveys at the end of each of their two community experiences. The first survey (Table II) asked students to assess to what extent their clerkship site had provided them with the opportunity to achieve the clerkship goals. The survey consisted of thirteen questions asking students to rate their responses on a Likert scale of 1–4 (1 = "not applicable"; 2 = "did not occur"; 3 = "partially occurred"; and 4 = "definitely occurred"). The second survey (Table III) asked students to evaluate

their primary preceptor in his or her ability to provide them with the intended experience. The survey consisted of 11 questions asking students to rate different aspects of their preceptor on a Likert scale of 1–5 (1 = "not applicable"; 2 = "strongly disagree"; 3 = "moderately disagree"; 4 = "moderately agree"; and 5 = "strongly agree"). At the end of the survey students were asked, using short answers, to share three things they liked the most and three things they liked the least about their clerkship experience. All students were given 2 weeks following the end of their clerkship period to complete the surveys.

The preceptors were also asked to complete two surveys. The first survey (Table IV) consisted of eight questions asking preceptors to assess appropriateness of each learning activity and the extent to which students participated in these activities. The appropriateness of the activity was ranked using a Likert scale of 1–5 (1 = "very inappropriate"; 2 = "somewhat inappropriate"; 3 = "no opinion"; 4 = "somewhat appropriate"; and 5 = "very inappropriate"). The extent to which the activities occurred was ranked using a Likert scale from 1 to 5 (1 = "not applicable"; 2 = "did not occur"; 3 = "no opinion"; 4 = "partially occurred"; and 5 = "definitely occurred"). The comprehensive PC and patient care project activities were not included on the survey for ranking; instead the SPEP office chose to determined the extent to which these activities occurred by analyzing the documentation provided in the student portfolios. Preceptors were also given space at the end of each question to provide comments relating to the various activities. In the second survey (Table V), preceptors were asked to evaluate their overall experience with the clerkship. All preceptors received one hard copy of both surveys, and were asked to complete these once for the whole clerkship period (from January to April). The surveys were submitted to the SPEP office by mail or fax, within 2 weeks of the conclusion of the clerkship period.

Analysis

The online student survey tool offered the flexibility to download the final results onto a spreadsheet, allowing for efficient collation and evaluation of the feedback. The preceptors' responses were entered manually by the SPEP administrative clerk onto a spreadsheet for analysis. Both student and preceptor rankings were summarized quantitatively and qualitatively. The course coordinator reviewed students' and preceptors' short answer comments and common themes were grouped using the open coding technique, where similar ideas were attached with the same label. Once the labeling was completed, the labels were grouped into categories and reported. For the purpose of this paper, all student, pharmacist and pharmacy identifiers were removed to maintain anonymity.

Table II. Student's evaluation of the extent to which their clerkship site provided them with the opportunity to provide the following ($n = 209$).

	*Extent to which these occurred			
	Definitely	Partially	No	NA
Develop professional maturity and responsibility in order to contribute to patient care and societal benefits	182	26	1	0
Develop their communication skills to establish the pharmacist–patient therapeutic relationship and understanding of empathy	187	21	1	0
Develop their ability to interview patients to obtain relevant information	158	48	3	0
Develop their problem solving skills/thought process skills to assess patient's drug therapy and medical conditions, to identify drug-related problems	175	33	1	0
Develop their ability to prioritize the drug-related problems identified in the order they should be addressed	122	82	5	0
Integrate didactic information learned in the undergraduate program to their assessment of drug therapy problems and to the resolution of identified problems	159	50	0	0
Develop their documentation skills using pharmacy care plans, including the drug-related problem, recommendations, monitoring plan and follow-up	148	54	7	0
Continue to develop therapeutic knowledge base and disease processes	181	25	2	1
Develop their interprofessional communication and working relationship skills	182	25	2	0
Expand their exposure to patient records and utilization of such a record to provide patient care	180	29	0	0
Expand their understanding of the "real" and "perceived" barriers to providing PC in practice, and how these may be overcome	151	54	3	1
Develop their understanding of PC and its application in the community setting	148	55	5	1
Give them ample opportunity to interact with patients and health care providers to improve their clinical skills and increase their confidence	173	36	0	0

*Definitely = definitely occurred; Partially = partially occurred; No = did not occur; NA = not applicable.

Table III. Student's evaluation of the extent to which their preceptor provided the following ($n = 209$).

	*Extent to did these occurred				
Evaluate your primary preceptor for the following criteria	SA	MA	MD	SA	NA
Provided adequate orientation including setting expectations, tour of the pharmacy, introduction to staff, review of student's learning contract	141	44	17	7	0
Provided the opportunity to engage in all the mandatory activities outlined in the manual	126	70	9	3	1
Met with students regularly to review work, provide direction and feedback	131	54	14	10	0
Was well organized	114	71	15	9	0
Involved student in active participation of discussions and problem solving	142	53	8	6	0
Was readily available to answer questions	160	38	5	6	0
Modeled PC behaviors effectively	120	73	10	5	1
Stimulated student's recall of previously learned material	124	69	12	4	0
Encouraged students to use resource materials and learn on their own	171	30	7	1	0
Encouraged students to express their own opinions in patient care issues	146	51	10	2	0
Discussed basis of his/her actions and decisions to students	133	60	13	3	0

*SA = strongly agree; MA = moderately agree; MD = moderately disagree; SA = strongly disagree; NA = not applicable.

Table IV. Preceptor's evaluation of the community clerkship activities ($n = 111$).

*Activity description	A/E 5	A/E 4	A/E 3	A/E 2	A/E 1	Comments (Common themes)
New/refill prescriptions	80/75	31/32	0/2	0/1	0/1	Most important; appropriate activity
Education and monitoring	75/71	35/37	0/2	0/0	1/1	Very important, better informed patients lead to better compliance
Discuss classes	71/67	34/36	5/7	1/0	0/1	Good practice for students; informative for preceptors; time consuming
Non-prescription products	68/58	32/34	9/18	1/0	1/1	Very appropriate; lots of opportunities; follow-up was difficult; provided good follow-up opportunities; time consuming to supervise student; PC too extensive for non-prescriptions
Follow-up	48/50	43/36	16/14	3/9	1/2	Important component of PC; had positive impact on patient; very appropriate for prescription but not for non-prescriptions; too busy to follow-up; four weeks too short for follow-up; difficult to provide in our pharmacy, not appropriate
Drug information	85/82	24/26	2/2	0/0	0/1	Very good activity
Shadow health care professionals	50/38	38/45	14/18	8/7	1/3	Important activity; lots of opportunities; difficult to find such opportunities; no time to arrange for this
Discuss pharmacy practice	58/47	43/45	9/17	1/0	0/2	Good opportunity to discuss issues related to financial, ethics, time constraints and inventory issues; topic "pharmacy practice" was too vague

The heading for the value columns reads: Rate [†]appropriateness (A) of activity, and [‡]extent (E) fulfilled from 5 to 1

* For full description of the activities refer to Table I; [†] Appropriateness rating: 5 = very appropriate; 4 = somewhat appropriate; 3 = no opinion; 2 = somewhat appropriate; 1 = very appropriate; [‡] Extent fulfilled rating: 5 = definitely occurred; 4 = partially occurred; 3 = no opinion; 2 = did not occur; 1 = not applicable.

Results

Student surveys

There was an excellent response rate from the students, with 86% of the potential 244 surveys submitted to the SPEP office. The results from the student surveys are summarized in Tables II and III. Table II reveals the students' evaluation of their site, and Table III shows the students' evaluation of their preceptors.

When evaluating their site (Table II), 80% of the 209 students who submitted their surveys expressed that their site "definitely" provided them with the opportunity to engage in activities that helped them develop professional maturity and responsibility; therapeutic and disease knowledge; and skills related to communication, problem solving to identify drug-related problems and interprofessional collaboration. A comparable percentage of students also articulated that their site "definitely" provided them with access to patient records, and allowed them to interact with patients and other health care providers to improve their clinical skills and increase their level of confidence.

However, between 24–29% of students expressed that their site did not provide them with sufficient opportunity to hone skills essential for providing PC. Activities such as interviewing a patient, applying didactic and theoretical information learned in the undergraduate program to assess and resolve drug-related problems,

prioritizing drug-related problems and documenting their interventions for a drug-related problem identified, either "partially occurred" or "did not occur". A similar percentage of students (27–29%) expressed that opportunities to expand their understanding and application of PC and to discuss barriers to providing PC in the community setting with staff within the pharmacy either "partially occurred" or "did not occur". Based on the evaluation of the student portfolios, over the 8-week clerkship period (considering both community pharmacy sites for a given student), only 32 students had completed one patient care project and 96 students had the opportunity to initiate one comprehensive PC work-up, over an 8-week period.

When students were asked to evaluate their preceptors (Table III), 75% of the students stated that they "strongly agreed" that their preceptor encouraged them to use resource materials and to learn on their own, and that their preceptor was readily available to answer their queries. However, approximately 40% of the students either "moderately agreed", "moderately disagreed" or "strongly disagreed" with the statements that their preceptor was well organized and that their preceptor modeled PC behaviors effectively. Additionally, 33–38% of the students either "moderately agreed", "moderately disagreed" or "strongly disagreed" that their preceptor provided them with the opportunity to engage in all of the clerkship's mandatory activities, met with them regularly to review their work and to provide feedback,

Table V.   Preceptor's evaluation of the community pharmacy PC clerkship ($n = 111$).

Statement	SA	A	No Op	D	SD	NA	Comments
The clerkship manual was clear and organized	20	60	24	6	0	1	Comprehensive, good framework for clerkship; well organized; nicely detailed; used it a lot; reviewed manual during the first week of clerkship; too detailed; no time to read manual; better to provide overview of manual; provide mock-examples; Information in the manual was clear, well laid out, with very little problems understanding it; we will use your manual in self-directed learning for our pharmacists
The clerkship office was available to assist students and preceptor when needed	8	15	66	1	0	21	Readily available; did not need to contact the office; would like to have toll-free number
The students' learning contract was useful and appropriate	29	62	16	3	0	1	Great tool for lifelong learning; good idea to have students set learning goals; helped direct activities; puts pressure on getting projects done instead of enjoying the experience
The student evaluate tool was appropriate and fair	30	62	12	6	1	0	Well laid out; helpful; simple to use; good breakdown of what the student had to cover; very PC oriented we deal with billing and computer issues more; add more room for comments; too much work for those of us who are volunteering; some points are difficulty to assess

Additional comments grouped under
    common themes:
Preceptor support
- Refresher course on clerkship expectations
    would be helpful
- Feedback on how other sites handle students and
    solve problems would be helpful
- More guidance on what we should expect from
    students, so workload and stress may be tailored better
- Would like to get feedback from students

Clerkship experience
- The whole clerkship program was very appropriate
    and stimulated good PC
- Was well organized
- Experience was good for preceptor, allowed
    to refocus on PC
- Significant improvement in learning structure
    over the years
- The old format with pre-assigned questions
    and "mock patient" situations provided
    in manual to discuss with students was better
- Clerkship needs to focus on real-life issues
    such as insurance plans,
    managing pressures of work

Patient care documentation
- While documentation is very useful,
    its difficult during
    high prescription volume times
- Students expressed they had too much
    to document

Time constraints
- Its hard to have back to back students
- Difficult to find time to spend with students

Ranking: SA = strongly agree; A = agree; No Op = no opinion; D = disagree; SD = strongly disagree; NA = not applicable.

stimulated recall of previously learned material, or discussed with them the rationale for their actions and decisions. When asked if their preceptor had provided them with an adequate orientation, involved them in discussions and problem-solving or encouraged them to express their opinions in patient care issues, 29% of the students either "moderately agreed", "moderately disagreed" or "strongly disagreed".

The students' comments relating to the things they liked the most and liked the least about the community

clerkships were grouped under the following common themes: overall experience, preceptor and environment, learning activities, patients, documentation, and orientation. The common ideas under each of these themes have been summarized in Table VI.

Preceptor surveys

Of the 122 primary preceptors 111 preceptors returned their surveys to the SPEP Office, representing a 91% response rate. Results of the preceptor surveys have been summarized in Tables IV and V. When asked about the appropriateness of the clerkship activities (Table IV), 75% of the preceptors rated the drug information activity as being "very appropriate". The activities deemed "very appropriate" by less than 75% of the preceptors were, in descending order: receive, interpret and analyze new prescriptions for appropriateness, provide patient education and monitoring information, discuss non-prescription and therapeutic drug class with preceptor, provide PC to patients requiring OTC products, discuss pharmacy practice issues with manager and preceptors, collaborate with other health care professionals and provide follow-up to patients.

When asked to indicate to what extent students were able to participate in each of the activities (Table IV), 75% of the preceptors indicated that the drug information activity "definitely occurred". The activities that were rated less than 75% of the time as "definitely occurred", in descending order, were: receive, interpret and analyze new prescriptions for appropriateness, provide patient education and monitoring information, discuss non-prescription and therapeutic drug class with preceptor, provide PC to patients requiring OTC products, discuss pharmacy practice issues with manager and preceptors, collaborate with other health care professionals and provide follow-up to patients. Two clerkship activities that were rated as being "very inappropriate" to "somewhat appropriate" by preceptors and identified as being "not applicable" to their site or "did not occur" at their site included: providing follow-up care to patients and shadowing another health professional. Table IV also summarizes comments relating to the specific activities which the preceptors had provided.

When preceptors where asked to comment on the overall clerkship experience (Table V), 72% of the 111 preceptor surveys indicated that the clerkship manual was clear and well organized, 82% of the preceptors agreed that the student learning contract was useful and appropriate and 83% of the preceptors agreed that the student evaluation form was appropriate and fair. When asked about the availability of the SPEP office, about 75% of the preceptors either provided no opinion or thought the question was not applicable to them.

Table VI. What students liked the MOST and the LEAST of their community pharmacy PC clerkship experience.

A. What students liked the MOST, grouped under common themes:
Overall
- Practicing in different regions of the province was an eye opener

Preceptor and environment
- Preceptors' openness, enthusiasm and serving as a role model for PC
- Friendly and welcoming environment that promoted exchange of information between students and staff
- Preceptors being knowledgeable and supportive of the SPEP requirements
- Preceptor setting clear expectations, being organized and available
- Encouraged to work independently

Learning activities
- Opportunity to participate in PC activities, even when sites did not provide it
- Opportunity to participate in non-PC activities (eg. health promotion clinics, drug information, site project, discussing pharmacy practice issues)
- Learning contract helped to focus on activities
- Not having to count pills and run the cash register
- Developed an appreciation of journal articles
- Getting to use what I learned in my undergraduate pharmacy program
- Stimulating homework questions
- Systematic review of drug classes and disease states has made me more confident
- Opportunity to spend time other health professionals

Patients
- Patients really appreciated my interest and concern for their health

Documentation
- Pharmacy care plan forms helped to organize patient information, helped with critical thinking and resolving drug-related problems
- Monitoring parameters within the pharmacy care plan reinforced what was learned during the pharmacist–patient interaction

Orientation
- Orientation quiz helped reinforce SPEP expectations

B. What students liked the LEAST, grouped under common themes:

Preceptor and environment
- Preceptors did not see the clerkship as an education program
- Preceptors were too busy to meet with students on a regular basis and provide feedback
- Not all pharmacists were willing to take on a preceptor's role
- No mid-point evaluation provided
- Preceptors not familiar with clerkship expectations, manual and evaluation form
- Preceptors and staff not supporting the practice of PC
- Lack of privacy made PC difficult
- Four weeks too short for comprehensive PC activiy and follow-up

Learning activities
- Skills to provide follow-up were not sufficiently taught in school to implement in practice
- Limited opportunity to engage in many SPEP activities, particularly comprehensive PC
- Not allowed to review patient profiles independently
- No access to the internet
- Learning was not incorporated into the day to day activities
- Expected to do technical tasks rather than patient care activities
- Its difficult to provide PC when working under pressure and stress, need to pace students' interaction with patients to allow for reflection
- No access to other health professionals

Patients
- Difficult to develop a therapeutic relationship when patients are in a rush
- Difficult to provide PC when patients only expect to receive a product
- Follow-ups not always well received by patients

Documentation
- Preceptors not familiar with the pharmacy care plan which created a barrier to discussions

Discussion

The primary objective of this project was to understand the students' and preceptors' experiences and perspectives with the newly developed community pharmacy PC clerkship. The student surveys suggested that a large number of students (80%) believed they "definitely" received the opportunity to develop professional maturity and responsibility, therapeutic and disease knowledge, and skills related to communication, problem solving to identify drug-related problems and interprofessional collaboration. However, when asked to evaluate if their preceptor involved them adequately, about one third of the students (33–38%) moderately agreed to strongly disagreed with this statement. The preceptor survey supported the students' data, with a large number of preceptors indicating that the activities designed to develop skills related to comprehensive PC were less likely to have occurred than those activities related to filling of new and refill prescriptions and for patients requesting non-prescription products. Thus, overall, the newly implemented community pharmacy PC clerkship fell short of providing students with an adequate learning opportunity, from both the students' and preceptors' perspectives.

In spite of numerous shortcomings with the clerkship, the students ranked their community experiences favorably. One possible explanation is that students' expectation for engaging in direct patient care in the community setting may have been low. Such expectations would not be unreasonable in light of the fact that adoption of PC among community pharmacies has not been pervasive. In addition, there has been an impression among pharmacy practitioners that community pharmacy practice is less patient oriented and less demanding of clinical skills compared to hospital pharmacy practice (Weisman, Oppenheimer, Adamcik, & Mortazavi, 1984; Broadhead & Facchinetti, 1985). Indeed, it has been the tradition at UBC for "clinical patient care" activities to be part of the institutional clerkship experience but not of the community pharmacy experience. In light of this, the students may have been appreciative of whatever patient care opportunities their preceptors were able to offer them. This is evident in their surveys where students expressed being pleased to have been given the opportunity to participate in PC activities and various non-direct patient care activities even when their site did not provide PC.

It was, however, interesting to note that despite students ranking their clerkship site highly, more than a quarter of the students remarked under "additional comments" that they were disappointed with the breadth and depth of their experiences. Many students expressed that they did not feel they received an adequate opportunity to hone specific PC skills and processes such as developing effective relationships with patients, interviewing patients, applying information learned in the undergraduate program to assess and resolve drug-related problems, and developing pharmacy care plans for patients who required interventions. Additionally, several students commented that the quality of their learning when assessing new and refill prescriptions and when consulting for non-prescription products was compromised as their preceptors' primary emphasis was on having them continuously interact with patients, not on giving them the time to reflect on and learn from their interactions. Students commented that it was difficult to learn under such pressure. Indeed, one of the most frequent recommendations made by students was that preceptors pace the number of student–patient interactions to allow students the time to reflect to learn from their experience. This could be met, for example, by having the students take responsibility for every second or third patient coming in for new or refill prescriptions. Students also stated that they would have liked to have had more opportunity to participate in activities related to comprehensive PC and follow-up, so they could expand their understanding of PC in the community pharmacy setting. These comments from the students would suggest that the students believed that activities related to filling of new and refill prescriptions and consultation for non-prescription products offer limited opportunity for them to develop the more sophisticated PC skills associated with longitudinal care such as maintaining an effective pharmacist-patient relationship, assuming responsibility for management of drug-related problems and evaluating the patients' drug therapy outcomes over time. This notion has also been proposed elsewhere in the literature (Beck, Thomas, & Janer, 1996).

The preceptor survey data was consistent with the students' experiences. In their survey, the preceptors were asked to rate the appropriateness of the clerkship activities and state to what extent students had the opportunity to participate in these activities. As one would expect, there was a direct correlation between those activities that were rated the highest in terms of being appropriate and those that were available for students to participate in. For instance, activities which received the highest approval rating from the preceptors such as providing drug information; receiving, interpreting and analyzing new prescriptions for appropriateness; providing patient education and monitoring information; discussing non-prescription and therapeutic drug class with preceptor and providing PC to patients requiring non-prescription products, were also the same activities that students were most likely to participate in. Similarly, the activities which received the lowest approval, such as discussing pharmacy practice issues with manager and preceptors; collaborating with other health care professionals and providing follow-up to

patients; were also activities that were the least likely to have occurred.

When recruiting sites over the phone for the community pharmacy PC clerkship, the SPEP faculty was cognizant that most of the community pharmacy sites being recruited to serve as clerkships sites had never participated in comprehensive PC activities. Therefore, only those sites where pharmacists indicated such an experience was important for students to engage in and had verbally committed that they would try their best to provide such opportunities to students were recruited for the clerkship. In light of this knowledge and discussion, the SPEP faculty expected that preceptors and students would experience some difficulties with this activity. Thus, a decision was made by SPEP to let preceptors provide open feedback, under the general comments section, rather than have them ranked this activity. A similar approach was taken for the patient care project activity. Preceptors provided many interesting comments in this regard. While many said the PC focus of this clerkship was excellent, a few preceptors suggested that the focus needed to be broadened beyond patient care activities to include "real life" issues such as coping with a busy store and being familiar with drug insurance plans. Some even suggested they would have liked the option of giving their students pre-assigned questions and "mock patients" to practice their PC skills and knowledge rather than finding actual patients for students to engage in comprehensive PC with, as it was difficult to find patients who were interested in participating in such activities.

When students were asked how well their preceptor had structured their clerkship, more than 40% of the students indicated that their clerkship experience could have been better organized. Many felt that their preceptors were not familiar with the clerkship expectations and student evaluation process; and more than 30% expressed that their preceptors did not meet with them sufficiently to review their work, provide them with direction and feedback or stimulate recall of previously learned material. Again, the preceptors' survey data paralleled the students' experiences, where preceptors also expressed that they had difficulty with this aspect of the clerkship. One of the most common comments expressed by preceptors was that they found it problematic to spend an adequate amount of time with students. Preceptors also indicated that it was not sufficient for the Faculty to provide them with a clerkship manual outlining the expectations, because they did not have the time to read the manual. A high number of preceptors indicated that the faculty should provide preceptors with sessions where the clerkship expectations and the evaluation process could be articulated in an efficient fashion.

Other inferences were made by students and preceptors to explain the shortcomings of their experiences, many of which have been proposed in the literature (Beck et al., 1996). These included: the 4-week length of the clerkship period was too short to allow students to engage in comprehensive PC; it was difficult to create learning opportunities related to comprehensive PC because the practice at the clerkship sites did not lend to such opportunities; the unfamiliarity of the preceptors with the PC practice and processes created a barrier to discussing PC related issues; and, there was a lack of "good role models" to practice PC at the clerkship sites. The latter two comments came primarily from students.

The importance of "good role models" is an important concept, given that students allegedly learn from observing their preceptors in practice. In addition, role-modeling is thought to be a way for preceptors to show their enthusiasm for and commitment to their role; thus, preceptors can motivate students by showing them how their learning activities relate to their future professional responsibilities (Broadhead & Facchinetti, 1985; Polo, Triplett, & Aceves-Blumenthal, 1994; Kennedy, Ruffin, Goode, & Small, 1997; Aviram, Ophir, Raviv, & Shiloah, 1998). However, it is important for educators to not solely rely on role modeling when designing clerkship experiences, because observing role models at work is often not sufficient to reveal the process through which their roles are fashioned or how they are sustained (Broadhead & Facchinetti, 1985; Joyner, 1993; Cerulli, 2003). To go along with role modeling, students must have the opportunity to acquire and practice the necessary competencies related to knowledge, skills, attitudes and values in real settings (Beck et al., 1996). Such an experience requires preceptors to structure their students' clerkship in such a way that encourages motivation and learning. Even the most self-directed students depend on their preceptor to set the stage for a successful experience through the provision of information, guidance and regular and constructive feedback (Joyner, 1993). The use of "mock cases", as was suggested by a few preceptors, would only limit the students' learning as they would continue to think of diseases, illnesses and drug therapy in an abstract fashion (Beck et al., 1996).

Another noteworthy point is that the SPEP office received numerous calls from preceptors asking for clarification on various evaluation criteria related to PC skills (Kassam, 2003). In addition, when reviewing preceptors' final evaluation of their students, it was observed that several preceptors had left a number of criteria relating to PC skills blank, with a note attached "not applicable to community clerkship". Those few preceptors who attempted to evaluate their students on the criteria related to PC skills had given their students near perfect scores, which were not always supported by the quality of work completed and submitted by the students in their portfolio. One such example was the assessment of the student's ability to document their interventions for drug-related problems identified

using "initial" and "follow-up" pharmacy care plans. The majority of students received high marks from their preceptors for this ability; however, a review of the students' pharmacy care plans suggested that not all the students deserved such high marks. The difficulty the preceptors experienced was not surprising in light of the fact that PC was not widely practiced in these community pharmacies and most preceptors were not comfortable with the specific skills involved.

This project has provided the SPEP faculty with a unique insight into the students' and preceptors' experiences and perspectives. Despite the commitment and enthusiasm of the community clerkship preceptors, there was a clear message for the Faculty to be aware that preceptors currently have the formidable task of upholding professional responsibilities to patients under what are often considered less than ideal conditions in practice; while at the same time assisting schools in training pharmacy students to be tomorrow's pharmacists (Cerulli, 2003; Cerulli & Briceland, 2004). There is a need for the Faculty to develop and deliver an educational program that will help address the many issues identified by the students' and preceptors within the realities of community practice.

Limitations

In retrospect, it would have been useful for the SPEP faculty to have included questions targeting the comprehensive PC and the patient care activities. This may have prompted the students and preceptors to provide more insight into the specific difficulties that were encountered with these activities, than was provided. It was surprising to the SPEP faculty that only a quarter of the students had an opportunity to partake in a patient care project, considering that this would be one activity where the student could directly contribute to the clerkship site. Nonetheless, the comments provided by the students and preceptors gave valuable insight to the SPEP faculty into some of the reasons why these activities may not have been as abundant. The SPEP faculty can now build on this information through one–one–one interviews and focus group discussions with students and preceptors to identify specific solutions which will address the specific problems they may have been encountered.

Conclusions

Preparing future pharmacists to practice PC is seen by many schools of pharmacy as their single most crucial aspect to any pharmacy curriculum. Pharmacy leaders see PC based clerkships as the most effective means

to achieving the end, where students can learn to create and assume new roles as active members of clinical teams and in doing so bring about reform and enhance pharmacy practice. However, to achieve this goal, it is apparent that schools of pharmacy will need to invest more heavily in this process. From this study, it is clear that the development and delivery of a structured preceptor educational program is an important aspect of this investment (Kennedy et al., 1997).

References

Association of Faculties of Pharmacy of Canada (AFPC). (2004). AFPC educational outcomes for a baccalaureate pharmacy education in Canada, Canada 1998, Available at: http//.www/afpc.info/downloads/association/Outcomes%20Undergraduate%2019988.pdf.

Aviram, M., Ophir, R., Raviv, D., & Shiloah, M. (1998). Experiential learning of clinical skills by beginning nursing students: "Coaching" project by fourth-year student interns. *Journal of Nursing Education, 37*, 228–231.

Beck, D. E., Thomas, S. G., & Janer, A. L. (1996). Introductory practice experiences: A conceptual framework. *American Journal of Pharmacy Education, 60*, 122–130.

Broadhead, R. S., & Facchinetti, N. J. (1985). Clinical clerkships in professional education: A study in pharmacy and other ancillary professions. *Social Science and Medicine, 20*(3), 231–240.

Cerulli, J. (2003). Reaching beyond the pharmacy bench: Impressions of academic community pharmacy practice. *Journal of the American Pharmaceutical Association, 43*, S10–S14.

Cerulli, J., & Briceland, L. L. (2004). A streamlined training program for community pharmacy advanced practice preceptors to enable optimal experiential learning opportunities. *American Journal of Pharmacy Education, 68*, Article 09.

Hepler, C. D., & Strand, L. M. (1990). Opportunities and responsibilities in pharmaceutical care. *American Journal of Hospital Pharmacy, 47*, 533–543.

Joyner, P. U. (1993). How to motivate pharmacy students and residents. *American Journal of Hospital Pharmacy, 50*, 1850–1853.

Kassam, R. (2003). Focus group methodology to develop a community pharmaceutical care clerkship program. *American Journal of Pharmacy Education, 67*, Article 88.

Kassam, R., Farris, K. B., Cox, C. E., Volume, C. I., Cave, A., Schopflocher, D. P., & Tessier, G. (1999). Tools used to help community pharmacists implement comprehensive pharmaceutical care. *Journal of the American Pharmaceutical Association, 39*, 843–856.

Kennedy, D. T., Ruffin, D. M., Goode, J. V. R., & Small, R. E. (1997). The role of academia in community-based pharmaceutical care. *Pharmacotherapy, 17*, 1352–1356.

Polo, I., Triplett, J. W., & Aceves-Blumenthal, C. (1994). Integrated clinical geriatric pharmacy clerkship in long term acute and ambulatory care. *American Journal of Pharmacy Education, 58*, 165–171.

Weisman, F. G., Oppenheimer, P. R., Adamcik, B., & Mortazavi, E. (1984). The development and implementation of a community pharmacy clerkship. *American Journal of Pharmacy Education, 48*, 170–174.