

ORIGINAL RESEARCH

Survey of Pharmacy Preceptors' Expectations and Experiences with Students on Rotations in an Inaugural Combined BScPhm/PharmD Class

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ABSTRACT

Background: In September 2011, the Leslie Dan Faculty of Pharmacy, University of Toronto, Toronto, Ontario, began offering a combined BScPhm/PharmD program to third-year students and postbaccalaureate graduates. Learning consisted of in-class teaching and Advanced Pharmacy Practice Experience (APPE) rotations.

Objective: To explore preceptors' expectations and perceptions of student performance in the APPE rotations of the new combined degree program.

Methods: A survey was distributed via email to 132 pharmacists from the Toronto Academic Health Science Network who had acted as preceptors for the combined degree program in academic year 2011/2012. The 17 questions were designed to gather information on preceptors' demographic characteristics and their expectations and evaluations of the combined-program students. Responses were analyzed qualitatively for common themes and quantitatively using sums and means. Survey responses were compared to identify alignment and discrepancies between preceptors' expectations and evaluations of students.

Results: The survey response rate was 48% (63/132). Most respondents (46 [73%]) were from a teaching hospital, and the same proportion (46 [73%]) reported being preceptors for a direct patient care rotation. Forty-four (70%) of the respondents expected students to be at the level of traditional PharmD students, hospital residents, or advanced-level Structured Practical Experience Program students, and 35 (80%) of these 44 respondents reported that their students met or exceeded expectations. According to survey responses, 31% of respondents (18/58) ranked students at the corresponding level of performance on the faculty's assessment form, while 62% (36/58) ranked students at a higher level (5 respondents did not complete the question). Only one-third of respondents felt that they personally had received adequate training before taking on preceptor duties for combined-program students.

Conclusions: Preceptors' perceptions of the rotation and their expectations of students varied widely and were influenced by prior teaching and learning experiences. There was a disconnect between preceptor-specific expectations and preceptors' final evaluations of students. Training to standardize the expected level of performance and additional training for preceptors would further enhance the APPE rotations of the combined degree program.

RÉSUMÉ

Contexte : En septembre 2011, la Faculté de pharmacie Leslie Dan de l'Université de Toronto à Toronto, en Ontario, a commencé à offrir un programme de double diplôme, B. Sc. Phm.–Pharm. D., aux étudiants de troisième année et aux diplômés titulaires d'un baccalauréat. Le programme reposait d'une part sur un enseignement en classe et d'autre part sur des stages offrant une expérience pratique avancée de la pharmacie (*Advanced Pharmacy Practice Experience* [APPE]).

Objectif : Étudier les attentes des précepteurs envers la performance des étudiants participant aux stages APPE du nouveau programme de double diplôme ainsi que la perception qu'ils en ont.

Méthodes : Un sondage a été envoyé par courriel à 132 pharmaciens œuvrant dans le Toronto Academic Health Science Network et ayant agi à titre de précepteurs dans le programme de double diplôme durant l'année universitaire 2011-2012. Les 17 questions du sondage ont été conçues dans le but de recueillir des informations sur les caractéristiques démographiques des précepteurs ainsi que sur leurs attentes envers les étudiants et les évaluations qu'ils ont faites de ceux-ci dans le cadre du programme double. Les réponses ont été analysées qualitativement pour établir des thèmes communs ainsi que quantitativement à l'aide de sommes et de moyennes. Les réponses au sondage ont été comparées afin de relever des concordances et des divergences entre les attentes des précepteurs envers les étudiants et les évaluations qu'ils ont faites d'eux.

Résultats : Le taux de réponse au sondage était de 48 % (63/132). La majorité des répondants (46 [73 %]) travaillaient dans un hôpital universitaire et un même nombre de répondants (46 [73 %]) ont indiqué agir à titre de précepteurs pour un stage de soins directs aux patients. Quarante-quatre (70 %) des répondants s'attendaient à ce que les étudiants soient à la hauteur des étudiants du programme de Pharm. D. traditionnel, des résidents hospitaliers ou des étudiants de haut niveau dans le programme structuré d'expérience pratique (*Structured Practical Experience Program*) et 35 (80 %) de ces 44 répondants ont déclaré que leurs étudiants avaient satisfait aux attentes ou les avaient dépassées. Selon le sondage, 31 % des répondants (18/58) ont classé les étudiants au niveau de performance correspondant sur le formulaire d'évaluation de la faculté, tandis que 62 % (36/58) ont classé les étudiants à un niveau supérieur (cinq répondants ont négligé cette question). Seul le tiers des répondants

Keywords: pharmacy, preceptors, students, expectations, practical experience

estimaient avoir reçu une formation suffisante avant d'endosser le rôle de précepteur auprès des étudiants du programme de double diplôme.

Conclusions : Les perceptions des précepteurs envers le stage de même que leurs attentes envers les étudiants variaient grandement et étaient influencées par des expériences d'enseignement et d'apprentissage passées. Il y avait un écart entre les attentes des précepteurs et leurs évaluations finales des étudiants. Un enseignement visant à normaliser le niveau de performance attendu ainsi qu'une formation supplémentaire pour les précepteurs amélioreraient davantage les stages APPE du programme de double diplôme.

Mots clés : pharmacie, précepteurs, étudiants, attentes, expérience pratique

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INTRODUCTION

In September 2011, the Leslie Dan Faculty of Pharmacy, University of Toronto, Toronto, Ontario, established a new program, the Combined Bachelor of Science in Pharmacy and Doctor of Pharmacy degree program (referred to hereafter as the combined degree program). This program allowed students to complete their final year of the Bachelor of Science in Pharmacy (BScPhm) degree concurrently with their first year of the Doctor of Pharmacy (PharmD) degree. Students would then go on to complete a fifth year of training, which allowed them to complete the PharmD degree in a total of 5 years. In contrast, the traditional PharmD program was a postbaccalaureate program that required prior completion of at least the BScPhm program and possibly additional training or work experience. The traditional PharmD program required at least 6 years of postsecondary education to complete.

Students in the new combined degree program were exposed to additional formal classroom education and additional experi-

ential education, beyond what would be received in the BScPhm program. In the BScPhm program, students completed two 8-week Structured Practical Experience Program (SPEP) rotations in their fourth year, one in community practice and one in hospital practice. In the combined degree program, students were exposed to a total of 44 weeks of Advanced Pharmacy Practice Experience (APPE) rotations, which were completed in 5-week blocks in areas ranging from direct patient care (community and hospital) to non-direct patient care rotations in drug information, research, teaching and learning, and other areas. Students in the BScPhm program would therefore complete 16 weeks of rotations in the SPEP format, whereas those in the combined degree program would complete 44 weeks of rotations in the APPE format. A comparison of the programs can be found in Table 1.¹

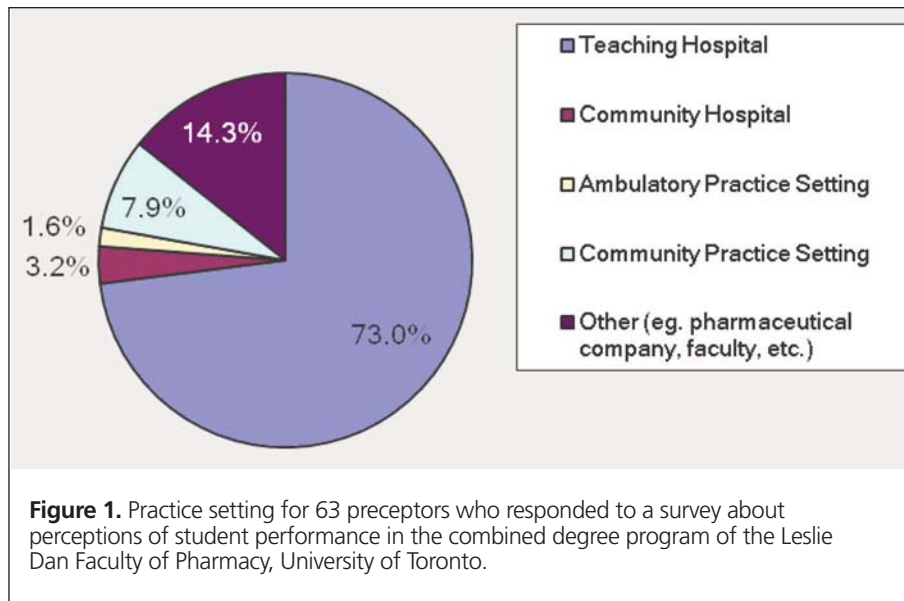
As students in the combined degree program entered their first APPE rotation, they brought with them experience from the 4-week "Foundations for Advanced Pharmacy Practice" rotation

Table 1. Comparison of the Various Degree Programs Offered by the University of Toronto*

Characteristic of Program	Degree Program		
	BScPhm	Combined BScPhm-Postbaccalaureate PharmD	Postbaccalaureate PharmD
Degree(s) granted	Bachelor of Science in Pharmacy	Bachelor of Science in Pharmacy and Doctor of Pharmacy	Doctor of Pharmacy
Length of program	4 years	5 years	2 years
Experiential components	SPEP: 16 weeks	44 weeks	44 weeks
Focus of program	Building a foundation of knowledge, skill and experience to become a practising pharmacist in a community, hospital, or health team setting	Acquiring the foundational skills, knowledge, and experience to become a practising pharmacist, and augmenting this learning with specialized training and hands-on experience with the aim of becoming an advanced practitioner capable of solving the most complex drug-related problems	Enhancing the knowledge, skills, and experience acquired in the classroom and on the job to become an advanced pharmacy practitioner capable of solving the most complex drug-related health issues

SPEP = Structured Practical Experience Program.

*Adapted, with permission, from the Leslie Dan Faculty of Pharmacy degree comparison chart.¹



and any work experience they may have had. The 4-week Foundations rotation was designed to introduce students to clinical practice and to help establish the clinical pharmacy skills needed for the APPE rotations. The 4-week Foundations rotation along with the eight 5-week APPE rotations made up the 44-week experiential education component of the combined degree program. Most of these students had not yet entered practice and came with therapeutic knowledge from the classroom; as they progressed through the program they brought to subsequent rotations clinical knowledge from prior rotations within the program itself.

The preceptors had experience working with and evaluating a variety of students, including those completing the traditional PharmD program. With this new cohort of combined-program students entering rotations with the same preceptors, it was important to see how the expectations of the preceptors were defined. In addition to the competency-based objectives set by the university, preceptors set their own specific expectations for students to meet throughout the rotation. These preceptor-specific expectations may have been set according to each student's education level or therapeutic knowledge, or how the student compared with prior students in the preceptor's practice. Many factors come into play when preceptors are evaluating students, and a preceptor's expectations can take on a key role.

This study was designed to investigate the expectations that preceptors had of students within the combined degree program before rotations began, how the preceptors assessed students, and what factors played a role in preceptors' assessments.

METHODS

This study was conducted using a survey design. The 17 questions were developed by a group of practising pharmacists

with experience in experiential education and were designed to gather information on preceptors' demographic characteristics, their expectations of the combined-degree students, and their evaluations of those students. Both open-ended and multiple-choice questions were included (see Appendix 1, available at www.cjhp-online.ca/index.php/cjhp/issue/view/112/showToc). The survey was created through SurveyMonkey and was piloted by 5 pharmacists to assess its readability, accuracy in reflecting the intent of the survey, and time required for completion. Feedback was incorporated, and a link to the online survey was distributed via e-mail. The study was open to all 132 pharmacy preceptors in the Toronto Academic Health Science Network who had been responsible for at least one combined-program student in academic year 2011/2012. These preceptors were mainly from academic health centres; however, some were from community hospitals and other sites. Participation was voluntary, and answers were anonymous. Survey responses were analyzed according to question type. Closed-ended questions (e.g., multiple-choice questions) were analyzed quantitatively on the basis of sums and means, while open-ended questions were analyzed qualitatively. The qualitative review was conducted by manually reviewing responses to open-ended questions and summarizing them according to common themes. Survey responses were also compared and analyzed to identify alignment and discrepancies between preceptors' expectations and evaluations of students.

RESULTS

The survey response rate was 48% (63/132). Most respondents (73% [46/63]) were from teaching hospitals, and the remaining 27% (17/63) were from community hospitals, ambulatory practice settings, community practice settings, pharmaceutical companies, and the Leslie Dan Faculty of

Table 2. Types of Student Pharmacists in Preceptorship before and after Introduction of the Combined Degree Program, as Reported by Respondents to a Survey of Preceptors

Type of Student	Academic Year; No. (%) of Students*	
	2010/2011 (n = 179)	2011/2012 (n = 214)
Early Practice Experience (years 1 and 2 of pharmacy school)	23 (12.8)	8 (3.7)
Structured Practical Experience Program (SPEP)	41 (22.9)	20 (9.3)
Interns	3 (1.7)	2 (0.9)
Residents	44 (24.6)	31 (14.5)
Combined degree program†	0 (0)	97 (45.3)
Postbaccalaureate PharmD	28 (15.6)	23 (10.7)
From another university in the region	17 (9.5)	20 (9.3)
Other (not specified)	23 (12.8)	13 (6.1)

*The data reflect the total number of students that respondents (preceptors) reported having worked with during each academic year.

†The combined degree program was offered for the first time in academic year 2011/2012; as such, there were no students from this program in the 2010/2011 academic year.

Table 3. Respondents' Evaluations of Students Relative to Level of Expectation

Respondent's Expectation of Level of CDP Student Performance	Respondent's Perception of Actual CDP Student Performance*					Total
	Highly Exceeded	Slightly Exceeded	Met	Close to Meeting	Failed to Meet	
PharmD (n = 16 [25%])	12	25	38	12	12	100
Hospital resident (n = 13 [21%])	0	31	46	15	8	100
Advanced level SPEP† (n = 15 [24%])	13	13	60	13	0	100
SPEP (n = 6 [10%])	0	17	50	33	0	100
Depends on rotation (n = 6 [10%])	17	17	33	17	17	100
Unsure (n = 2 [3%])						
No response (n = 5 [8%])						

CDP = combined degree program, SPEP = Structured Practical Experience Program.

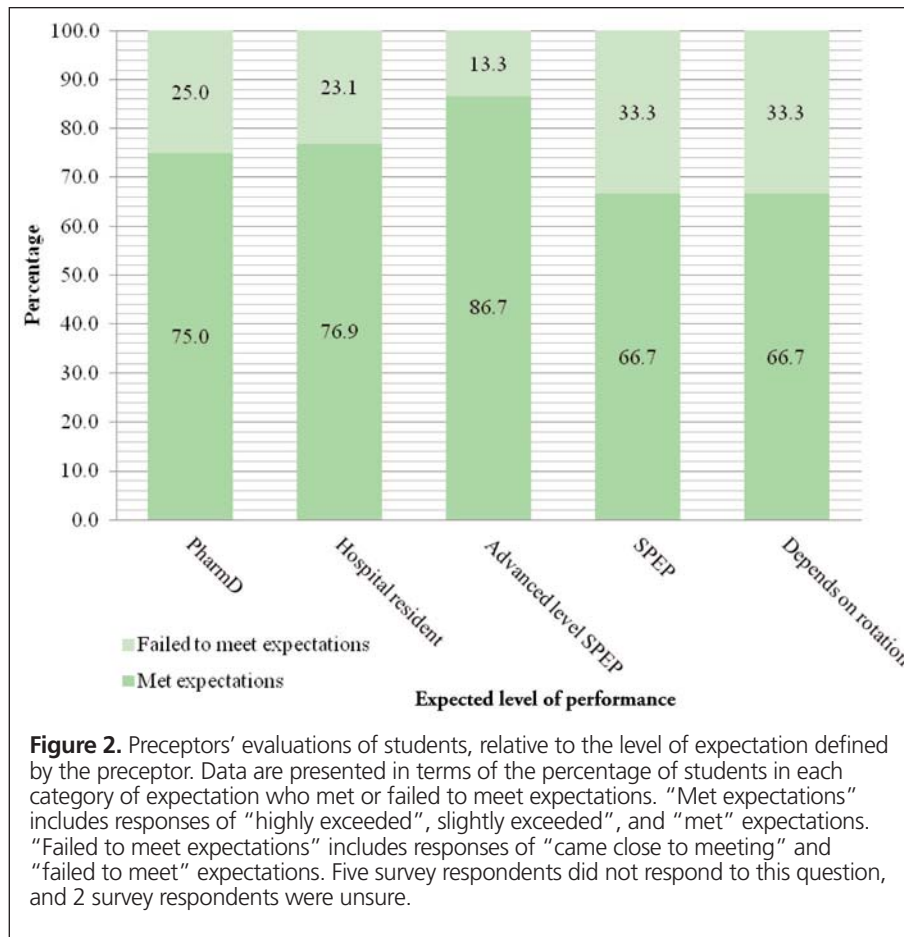
*Data are presented in terms of percent of respondents, calculated from the denominators shown in column 1 (such that each row sums to 100%).

†Advanced-level SPEP is a term that the preceptors used when expressing their expectations of CDP students, although this term does not reflect a formal program name.

Pharmacy (Figure 1). With respect to the type of rotation offered, 73% (46/63) were direct patient care rotations and 27% (17/63) were non-direct patient care rotations (research, teaching and education, management and/or administration, industry, consulting, other). As an indirect measure of pharmacists' experience as preceptors, respondents were asked to indicate the number of students from various programs and levels of education that they had taken on rotation in the past (Table 2). At the time of the survey, most respondents had taken only 1 combined-program student (33 preceptors) or 2 students from this program (14 preceptors).

To understand how expectations were set, respondents were asked how they determined their expectations of the combined-program students (with multiple options allowed for each respondent). Most respondents indicated that they relied on their own experience with training (47 [81%]), communication from

the faculty (46 [79%]), their own level of practice (44 [76%]), and prior experience with undergraduate students (40 [69%]); 5 respondents did not indicate how they determined expectations. In separate questions, respondents were asked what level of performance they expected of their combined-program students and whether the students met their predetermined expectations (with options of "failed to meet", "came close to meeting", "met", "slightly exceeded", and "highly exceeded"). Forty-four (70%) of the 63 respondents expected their students to be at the level of a traditional PharmD student, a hospital resident, or an advanced-level SPEP student, and 35 (80%) of these reported that their students met or exceeded expectations (Table 3). "Advanced-level SPEP student" is a term that some respondents used to describe their expectations of the combined-program students, although this term does not reflect a formal program name. The survey was not designed to determine a



cause-and-effect relationship between respondents' expectations and whether students met those expectations, but it was of interest to observe the interaction between these variables, specifically whether preceptors' expectations influenced their final evaluations of the students. These data are captured in Table 3 and Figure 2.

When asked whether combined-program students were prepared for their rotations, 23% (12/53) of respondents believed they were well prepared, 60% (32/53) believed they were adequately prepared, 15% (8/53) believed they were minimally prepared, and 2% (1/53) believed they were not prepared; 10 respondents did not answer this question. Respondents were also asked to identify areas of strength and areas for improvement of the combined-program students with whom they had worked (Figure 3). Overall, respondents identified 3 main areas for future improvement: application of knowledge (identified by 72% of respondents [42/58]), problem-solving skills (48% [28/58]), and patient workup (40% [23/58]). Respondents felt that students excelled in communication skills (45% [26/58]) and professionalism (57% [33/58]). Five respondents did not answer this question.

In addition to the question asking respondents how well students met their expectations, a separate question asked how respondents had typically assessed students on the Leslie Dan Faculty of Pharmacy assessment form. Respondents' perceptions of their students' performance were then compared with typical ratings on the faculty's assessment form (Table 4). The shaded cells in Table 4 indicate where alignment between these 2 evaluations should have occurred. For example, for respondents who described students as exceeding expectations, the reported ranking on the faculty assessment form should have been "Outstanding", whereas for respondents who described students as meeting expectations, the reported ranking on the faculty's assessment form should have been "Adequate/Pass". Such alignment, where respondents' ranking of students on the faculty's assessment form was similar to their preceptor-specific expectations, occurred in 31% (18/58) of cases. For most of the remainder of cases, respondents ranked students above the perceived performance level (62% [36/58]), with very few ranking students below the perceived performance level (7% [4/58]).

Given that students in the combined degree program represented a new group of students entering rotations, it was of

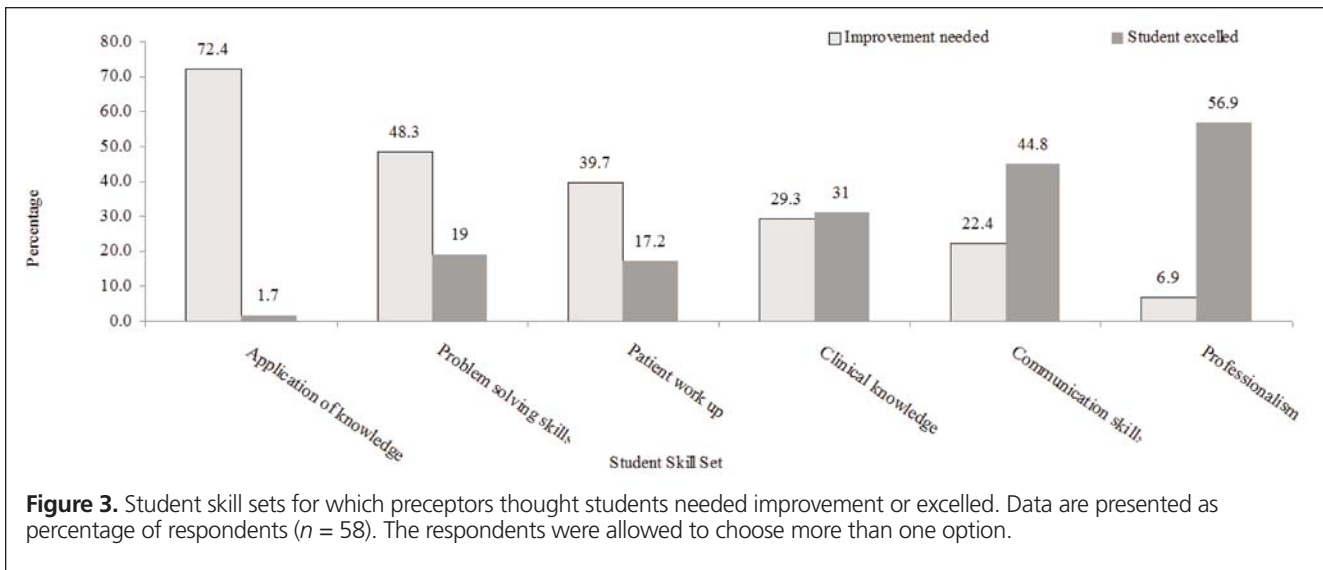


Table 4. Comparison of Respondents' Perceptions of CDP Student Performance and Reported Assessment of Students (on Faculty of Pharmacy Assessment Form)

Respondent's Reported Ranking of Students on Faculty Assessment Form	Respondent's Perception of Actual CDP Student Performance*				
	Highly Exceeded Expectations	Slightly Exceeded Expectations	Met Expectations	Close to Meeting Expectations	Failed to Meet Expectations
5 (outstanding)	1	4			
4 (good)	4	8	19	4	
3 (adequate/pass)			9	5	3
2 (poor)				0	1
1 (extremely poor)					0

CDP = combined degree program.

*Data are presented in terms of number of respondents. The shaded cells (on the diagonal line within the table) indicate alignment of a respondent's perception of students' performance and the respondent's reported marking of students on the faculty's assessment form. Five respondents did not respond to this part of the survey, so the sum of all cells is 58.

Table 5. Respondents' Perceptions of the Impact of CDP Students on Their Practice

Impact	No. (%) of Respondents ($n = 58$)
A project was completed that would not have otherwise been completed	26 (45)
Students decreased the preceptors' workload	11 (19)
Students increased the preceptors' workload	24 (41)
Students improved patient care	21 (36)
Students decreased the time that preceptors had for patient care	11 (19)
Students initially increased workload and then decreased workload	4 (7)
Unsure	2 (3)
Other (no response provided)	1 (2)

CDP = combined degree program.

*Respondents were allowed to choose more than one option.

interest to capture both positive and negative impacts (Table 5). Most respondents reported that their experience with the combined-program students was generally positive. Specific positive impacts on respondents' practice or practice site were completion of small projects that would not otherwise have been completed (45% [26/58]) and improved patient care (36%

[21/58]). Some negative impacts were an increase in overall workload (41% [24/58]) and a reduction in the time that preceptors had for direct patient care (19% [11/58]). Five respondents did not answer the question. Interpretation of the reported impact that students had on preceptors and sites must take into account that these data were collected for the first year

of the new program, and it was a new experience for preceptors to integrate these students into practice.

For those accepting students from the combined degree program, preceptor training involved an orientation session providing background on the new program and discussion/orientation as to the expected level of students entering rotations (based on in-class training), as well as use of the new student assessment form. Although this survey was not designed to capture specific information about preceptor training, some questions about training were included, to gain insight into how well prepared preceptors felt for this new group of students. In particular, respondents were asked to indicate how they would describe their prior training as a preceptor. Responses to this question were evenly divided, with 32% (17/53) of respondents indicating they had received adequate training, 34% (18/53) indicating they had received some training, and 34% (18/53) indicating they received minimal or no training before taking on combined-program students (10 respondents did not answer the question). An open-ended question allowed respondents to comment on any additional supports or changes they thought would be helpful to improve the experience of training combined-program students or to improve their role as a preceptor. Additional support that respondents believed would be helpful included continuing education or preceptor development modules, compensation for taking on the preceptor role, and clarification from the faculty about therapeutic topics that students had covered during their undergraduate program. Another theme that emerged from survey responses was the need for additional communication from the faculty about expected outcomes of the rotations and expected levels of performance of the students. Respondents wanted to have additional support from the faculty not only with respect to training but also with respect to handling students who were not meeting expectations.

DISCUSSION

This study showed that preceptors for the combined degree program had varied expectations of their students. Expectations appear to have been set on the basis of respondents' own experience in training, their experience with previous students, and information communicated by the Leslie Dan Faculty of Pharmacy. Preceptors had high expectations for this group of students, with 70% of respondents expecting students to be above the level of an SPEP student, and as high as a traditional PharmD student. The preceptors had been told that students would be prepared at the level of a traditional PharmD. Irrespective of the expected performance level, over 75% of preceptors believed that students met or exceeded expectations. In a comparison with respondents' reported overall perception of student performance, only 31% reported ranking students at the corresponding level of performance on the faculty's assessment form, while 62% reported ranking them at a higher performance

level. This discrepancy could relate in part to a lack of training to standardize student assessments. Respondents noted that additional communication from the faculty about expected outcomes of the rotations and expected levels of performance of the students was required. Without consistent and explicit expectations from the faculty, preceptors might have used previous experience to guide their rotations. Doing so might have resulted in lower expectations for the combined-program students, which would have a detrimental effect on the quality of the rotation and the quality of PharmD graduates emerging from the program. Reflecting on the rotations, respondents felt that students were adequately (60%) or well prepared (23%), excelled in professionalism (57%) and communication skills (45%), but needed most improvement in the areas of application of knowledge (72%), problem-solving skills (48%), and patient workups (40%). The experiential rotations were designed to help students apply their knowledge and work on their problem-solving skills. Most of the combined-program students did not have prior work experience, and these skills might not have been as well developed as for students going through the traditional PharmD program.

Comparison with the Literature

There is a paucity of literature in the area of preceptor expectations and evaluations of students in pharmacy experiential education. Some literature in the area of nursing education explores preceptors' experiences with students not meeting expectations. Hrobsky and Kersbergen² conducted a study to investigate preceptors' perceptions of clinical performance failure. They reported that preceptors described feelings of fear, anxiety, and self-doubt when evaluating students who did not meet expectations. Preceptors felt responsible when students were failing a rotation and sought reassurance from peers. These authors suggested that a faculty liaison could be helpful in such situations, to listen, be supportive, and follow up after the rotation experience. Similarly, in the current study, some respondents felt that additional communication and support from the faculty, in terms of both preceptor development and support, would be helpful.

Respondents in the current study described an increase in workload (41%), improved patient care (36%), and help in completing projects (45%) as a result of student experiential rotations. In other studies, the positive effects of student rotations have included an impact on the preceptor's personal knowledge base, an impact on the preceptor's teaching role, a gain in the understanding of needs and concerns of newly qualified staff, and an impact on the preceptor's emotional support skills.³ With respect to negative effects, other studies have described preceptors feeling overwhelmed and overworked, with no added compensation during student rotations.⁴

Limitations

This study used a survey design consisting of closed-ended and some open-ended questions. It was based on voluntary participation, and the response rate of less than 50% (reflecting only 63 participants) may not have captured responses representative of the entire population of preceptors for the combined degree program. The respondents represented a self-selected population, which may have been biased, with results potentially reflecting those with more positive or more negative experiences. There was also potential for recall bias, with reported responses being most reflective of each preceptor's most recent experience with a student. In the first year of the program, combined-program students completed their rotations mainly in academic hospitals, and hence the preceptor population surveyed may not adequately represent all pharmacist preceptors. The survey was designed to gather information and was not intended as a validation of the Leslie Dan Faculty of Pharmacy assessment rubric. Any observations from the survey must be considered in light of these limitations. Similarly, any feedback provided on the preceptor training modules is of interest, but the study was not designed to formally evaluate the preceptor development program. The survey was anonymous and therefore did not allow for further clarification or exploration of responses, as would be possible in an interview setting.

Finally, given the small group of preceptors invited to participate, minimal personal information was collected, to maintain anonymity. However, information about preceptors' formal education and training might have been of interest in analyzing and interpreting the relationship between their training and their expectations of students.

Lessons Learned and Recommendations

According to the observations gained from this survey study, it appears that most preceptors had a positive experience working with the combined-program students. However, clarity about the expected level of performance of combined-program students, as well as additional preceptor training and support, would enhance the experiential rotations of the combined degree program. The relationship between the faculty of pharmacy and the clinical preceptors could be enhanced to provide additional clarity about expectations on clinical rotations and to provide support for preceptors if a student is not meeting expectations (i.e., a remediation process). A communication network for preceptors to connect with each other might also enhance support for preceptors and allow them to access peer support and ideas.

It would be helpful to ensure communication of students' year-end performance outcomes to preceptors and to spend additional time ensuring that preceptors are educated about the expected differences between learners from the BScPhm program

and those from the combined degree program. Some of these changes have already been made for the new entry-level PharmD program.

CONCLUSION

This study showed that preceptors' perceptions of the experiential rotation and their expectations of students were highly varied and were influenced by prior teaching experiences, the performance of individual students, and the impact of rotations on workload and patient care.

Although this study has presented novel findings about preceptor-specific expectations and the disconnect between these expectations and final evaluations of students (as submitted to the faculty), it had limitations related to a low response rate, small sample size, and bias. Despite these limitations, this work reflects a significant contribution to an area of literature that has not been explored in pharmacy education. Preceptor training and development is vital to ensuring consistent and valuable experiential education for students and competent, qualified graduates.

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