Original article

Pharmacy students' satisfaction with Introductory Pharmacy Practice Experiences (IPPE) at community pharmacy: The case of Saudi Arabia

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ABSTRACT

Objective: To assess pharmacy students' satisfaction with introductory pharmacy practice experiences (IPPE) at community pharmacy and the impact of the training on their future career.
Methods: A self-administered questionnaire was made available to 74 male pharmacy students who completed 4 weeks community pharmacy IPPE. The questionnaire consists of 24 questions that were organized into 5 domains with a scale of six options were used to answer each question.
Results: A total of 43 students completed the survey (58%). Most of them evaluated their training experience as either as good (41.86%) or excellent (41.86%). One third of students (34.88%) were very satisfied about the clarity of the community pharmacy IPPE goals and objectives given prior to the training period. About half of students (51.6%) received a good direction and feedback from their preceptors. Regarding the contact with the patient or guardian, (39.53%) of the students chose neutral while (25.58%) of the students were very satisfied. The learning environment was satisfactory for (32.56%) of students. Regarding skills domain, students strongly agreed that their skills were improved; Communication skills as reported by (48.84%) of students, documentation skills as reported by (34.88%) of students, and clinical skills as reported by (34.88%) of students.
Conclusion: Surveyed male students were in general satisfied with their training experience at community pharmacy. Providing an orientation to the community pharmacy preceptors and granted electronic access of necessary information to the students might increase their satisfaction.

1. Introduction

In pharmacy education, experiential learning becomes one of the fundamental elements that help students to gain more skills and work habits, which improves their knowledge and attitude required to practice pharmacy (Aljadhey, 2012). Students have notable contributions in providing patient care during their experiential learning, which in turn will provide benefits to both patients and training site (Turner et al., 2000). Community pharmacy is a good area for pharmacy students to practice what they learn in pharmacy school (Krueger, 2013). In Saudi Arabia, there were 8114 private pharmacy which employed a total of 14,935 pharmacists in 2016. These private pharmacies serves as community pharmacies with a rate of one pharmacy for 3912 persons (Ministry of health, 2016). However, the role of community pharmacists was and is still limited to dispensing and counselling of medications with absence of other clinical services (Alanazi et al., 2016; Mazhar et al., 2017; Al-jedai et al., 2016). These pharmacies can be utilized efficiently by having pharmacists with practice-based training who will provide more patient-centered services such as optimization of drug therapy that yields a better quality of care, which could potentially reduce the load in primary care clinics and the long-term health care costs (Al-jedai et al., 2016; Sadek et al., 2016). An evident from 194 studies that showed better patient outcomes when providing patient-care in outpatient settings such community pharmacy (Chisholm-Burns et al., 2010).

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Saudi adults have a variable level of satisfaction toward the current services provided through community pharmacies, which could be increased by training the pharmacist to provide more efficient patient-centered services (Al-Tannir et al., 2016). One of the goals for the Saudi vision 2030 in health sector is to provide all ambulatory care pharmaceutical services through community pharmacies (Alomi, 2017). Also, there are efforts for nationalization in this field, as the vast majority of pharmacists (98.5%) who works in private pharmacies are expatriates at the present time (Ministry of health, 2016; Kheir et al., 2008).

Currently, training students in community pharmacy may be challenging. Many impediments can alter student satisfaction of the experiential learning and might hinder their progress to achieve the desired outcomes. Finding qualified supervisors for students, lack of knowledge about the scope of community pharmacy practice, and lower motivation to choose community pharmacy settings for training as it is less exciting and less clinically challenging are some of the issues to be considered (Al-Haddad and Hassali, 2010; Gatewood et al., 2012). The fact that some community pharmacies are profit-oriented where there is a major concern about the volume of sales might interfere with the opportunity of providing students with a good supervision. Moreover, students should be aware of the ethical aspects of this field, the malpractices and the conflict-of interests that might be encountered (Al-Haddad and Hassali, 2010). A collaboration from preceptors, pharmacy schools and students is needed to overcome the impediments and achieve the maximum benefit of this training.

There are no reported studies in Saudi Arabia that assess pharmacy student's satisfaction towards community pharmacy IPPE. In this study we aimed to assess the student's satisfaction level of the training and the impact of the training on their future career which in turn will help us to know the areas of improvement.

2. Methodology

2.1. Study sample and design

The study population consisted of eligible male pharmacy-students who completed the first two years of pharmacy program at College of Pharmacy, King Saud University, Riyadh, Saudi Arabia. It is a 5-year program consisting of a common first year and 4 years at pharmacy school. The pharmacy students were enrolled in a 4 week of Introductory Pharmacy Practice Experiences (IPPE) at community pharmacy setting which is a mandatory part of the curriculum for all pharmacy students. Students were divided between two allowed time periods, a total 36 students for each period (Juley or August). Each student had the chance to choose his preferred site from the available 20 community pharmacies and between the two allowed time periods (1:2 preceptor -to- student ratio). Two students had their training outside Riyadh region. An orientation lecture was given before the training to help in raising the students' preparedness and to clarify the objectives and goals of the community pharmacy IPPE. Students were required to spend 8 h daily for four weeks at the site. Community pharmacy IPPE required activities were explained during the orientation session. These activities were process at least 10 prescriptions/day (under the supervision of the preceptor), provide four patient counseling sessions under the supervision of the preceptor, complete four patient medication histories/interviews, perform one presentation (topic or patient case), and one project or health awareness activity.

2.2. Questionnaire and data collection

A self-administered questionnaire was used for this study. It consists of 24 questions that were organized into 5 domains as follow: clarity of community pharmacy IPPE objectives and goals (2 questions); environment (5 questions); preceptor (10 questions); interaction with patients (2 questions); and skills (5 questions). A scale of six options were used to answer each question (strongly disagree, moderately disagree, neutral/neither agree nor disagree, moderately agree, strongly agree, not applicable). At the end of the questionnaire the students were asked to write their comments about this experience, the advantages and disadvantages as well as to rate the overall experience (excellent, good, fair, poor). The survey is used by many colleges of pharmacy worldwide for quality purpose of training. Surveys were sent to 74 eligible students after they finished their training. Data collection occurred in 2 rounds after each training interval and a reminder e-mail was sent to non-responders.

2.3. Data analysis

Descriptive analyses were performed using Stata Statistical Software. Categorical data is described as frequencies and percentages while continuous data such as age described as mean.

3. Results

Of the possible 74 surveyed pharmacy students, a total of 43 students completed the survey with a response rate of 58%. The mean age of the students was 22. The overall experience was rated as "excellent" by 41.86%, "good" by 41.86%, and "fair" by 16.28%, while no one rated their experience as poor.

3.1. Clarity of community pharmacy IPPE objectives and goals

There are two items to evaluate the clarity of community pharmacy IPPE goals and objectives and the activities described during the orientation lecture (Table 1). Almost one third of the students (34.88%) and (30.23%) strongly agreed that the goals and objectives given prior to the training were clear, and the activities were organized and structured, respectively.

3.2. Preceptor

There are ten questions to assess the students' satisfaction about their preceptors including level of knowledge, the interest and willingness to teach (Table 2). About a half of students (51.6%) got a good direction and feedback. While (48.84%) of pharmacy students strongly agreed that their preceptors are interested in teaching, about (34.88%) of pharmacy students were neutral regarding their preceptor encouragement for active participation in discussions and problem-solving exercises. Around two thirds of students (67.44%) strongly agreed that the preceptor was willing to answer their questions. Half of students (55.81%) were very satisfied about their preceptor's level of knowledge while (4.65%) were not. The preceptors' feedback was helpful for (55.81%) of the students while (13.95%) had a neutral point of view and (4.65%) of the students were very unsatisfied.

3.3. Interaction with patients

There are two items to assess the level of interaction between students and patients (Table 3). Regarding the contact with the patient or guardian, most of the students had neutral point of view (39.53%) while (25.58%) of the students were very satisfied and (9.30%) were moderately unsatisfied. About the accessibility to the patient information, about (11.63%) of the students were very unsatisfied and (37.21%) had neutral point of view.

Table 1
Clarity of the Community Pharmacy IPPE Objectives and Goals.

	% (Frequency)					
	Strongly Disagree	Moderately Disagree	Neutral	Moderately Agree	StronglyAgree	Not applicable
The goals and objectives of the rotation were outlined and/or explained at the beginning of the rotation.	11.63 (5)	4.65 (2)	20.93 (9)	23.26 (10)	34.88 (15)	4.65 (2)
Rotation activities were well organized and structured.	4.65 (2)	6.98 (3)	25.58 (11)	23.26 (10)	30.23 (13)	9.30 (4)

Table 2
Preceptor.

	% (Frequency)					
	Strongly Disagree	Moderately Disagree	Neutral	Moderately Agree	Strongly Agree	Not applicable
Good direction and feedback were provided	4.65 (2)	–	30.32 (13)	11.63 (5)	51.6 (22)	2.33 (1)
This preceptor is interested in teaching this rotation	2.33 (1)	–	23.26 (10)	25.58 (11)	48.84 (21)	
This preceptor related to me as an individual	6.98 (3)	2.33 (1)	25.58 (11)	20.39 (9)	37.21 (16)	6.98 (3)
This preceptor encouraged students to actively participate in discussions and problem-solving exercises	2.33 (1)	4.65 (2)	34.88 (15)	20.93 (9)	37.21 (16)	–
This preceptor described their approach to thinking about therapeutic problems	6.98 (3)	–	23.26 (10)	30.23 (13)	37.21 (16)	2.33 (1)
This preceptor was readily available to answer questions and concerns	2.33 (1)	2.33 (1)	9.30 (4)	18.60 (8)	67.44 (29)	–
This preceptor is knowledgeable in their response to questions or their approach to therapy	4.65 (2)	–	13.95 (6)	23.26 (10)	55.81 (24)	2.33 (1)
This preceptor gave me a mid-point and final evaluation of my performance	2.33 (1)	–	6.98 (3)	34.88 (15)	53.94 (23)	2.33 (1)
This preceptor evaluated me at the end of the rotation in a manner which was helpful to me	4.65 (2)	–	13.95 (6)	23.26 (10)	55.81 (24)	2.33 (1)
This preceptor served as a role model for a pharmacist practicing in this practice setting	2.33 (1)	–	18.60 (8)	34.88 (15)	39.53 (17)	4.65 (2)

Table 3
Interaction with Patients.

	% (Frequency)					
	Strongly Disagree	Moderately Disagree	Neutral	Moderately Agree	Strongly Agree	Not applicable
I had adequate patient or guardian contact on this rotation to meet the learning objectives	2.33 (1)	9.30% (4)	39.53 (17)	20.93 (9)	25.58 (11)	2.33 (1)
I had access to necessary patient information	11.63 (5)	4.65 (2)	37.21 (16)	20.93 (9)	23.26 (10)	2.33 (1)

3.4. Environment

Five Items were used to assess students' satisfaction about the environment (Table 4). Resources were encouraged to be used by (41.86%) of students, while (23.26%) rated this point as neutral. The learning environment was satisfactory for (32.56%) of students and (27.91%) of them had a neutral point of view. Regarding the interaction with other health care providers, (34.88%) moderately agreed that there was a chance for interaction while (32.56%) chose "neutral".

3.5. Skills

Five items aimed to evaluate students' ability to apply previously learned materials, improvement in communication, documentation and clinical skills (Table 5). Most of students strongly agreed that their skills were improved; Communication skills as reported by (48.84%) of students, documentation skills as reported by (34.88%) of students, and clinical skills as reported by (34.88%) of students. About the ability to apply what they learned at the

collage during this training, most of the student's responses were ranging between moderately and strongly agree while (20.93%) had a neutral point of view.

3.6. Advantages and disadvantage of the community pharmacy IPPE

Students were asked to write their opinion regarding the advantages and disadvantage of the community pharmacy IPPE. The most reported disadvantage was the long working hours (8 h) considering the limited performed tasks in the morning shift due to the few numbers of prescriptions. Some of them suggested to assign students to evening shifts instead. Other disadvantage was the limited ability to provide good supervision due to preceptor's workload and the relatively low available number of preceptors in some training sites. Moreover, some of them mentioned selling prescription products in the absence of prescriptions and the misemployment of advertisements to influence the patients' purchasing. Other reported disadvantages were lack of medication therapy management services to apply their clinical knowledge, lack of security and poor connection with other health care

Table 4
Environment.

	% (Frequency)					
	Strongly Disagree	Moderately Disagree	Neutral	Moderately Agree	Strongly Agree	Not applicable
Students were encouraged to use resource materials	4.65 (2)	–	23.26 (10)	30.23 (13)	41.86 (18)	–
I had access to all necessary reference materials, either hard copy or via electronic means	6.98 (3)	4.65 (2)	23.26 (10)	13.95 (6)	46.51 (20)	4.65 (2)
This rotation provided opportunities to interact with other health care professionals	2.33 (1)	2.33 (1)	32.56 (14)	34.88 (15)	23.26 (10)	4.65 (2)
This rotation provided an environment (physical and philosophical) that facilitated my learning	9.30 (4)	4.65 (2)	27.91 (12)	20.93 (9)	32.56 (14)	4.65 (2)
Others at the rotation site were receptive and willing to interact with me	4.65 (2)	–	20.93 (9)	34.88 (15)	32.56 (14)	6.98 (3)

Table 5
Skills.

	% (Frequency)					
	Strongly Disagree	Moderately Disagree	Neutral	Moderately Agree	Strongly Agree	Not applicable
My verbal communication skills were enhanced on this rotation	4.65 (2)	2.33 (1)	18.60 (8)	23.26 (10)	48.84 (21)	2.33 (1)
My written communication skills or documentation skills were enhanced on this rotation	4.65 (2)	–	25.58 (11)	30.32 (13)	34.88 (15)	4.65 (2)
My clinical skills were enhanced on this rotation	4.65 (2)	4.65 (2)	20.93 (9)	30.32 (13)	34.88 (15)	4.65 (2)
I was able to apply previously learned materials on this rotation	2.33 (1)	2.33 (1)	20.93 (9)	34.88 (15)	34.88 (15)	4.65 (2)
I believe this experience will help me be a better pharmacist	–	–	16.28 (7)	23.26 (10)	55.81 (24)	4.65 (2)

providers. Regarding the advantages, the most reported was that they had the chance to explore the community pharmacy field which gave them a different insight about this type of practice. Other advantages were the interaction with the community that enhanced their communication skills, knowing more about the available medications (brands and generic names) and getting exposure to some managerial and inventory management tasks.

4. Discussion

To our knowledge, this is the first study that assess the student's satisfaction level of the pharmacy students training. Knowing the satisfaction of the student training in the community pharmacy is essential to improve the quality of training. Improving the quality of training might be helpful to encourage the pharmacy graduate toward working in community pharmacy that might has an impact in improving health care system which is one of the Saudi vision 2030.

Based on our results, most of the of students evaluated their training experience as either as good (41.86%) or excellent (41.86%). Only (16%) of students evaluated their training experience as fair and no student consider their training as poor. These numbers may give an indication that there is some potential for graduate to work in community pharmacy. It is important to mention that community pharmacy IPPE is the first training experience in the curriculum which might be one of the reasons that the students rated this experience as good or excellent.

In regard to the orientation and objectives of the training program, students strongly (34.88%) or moderately (23.26%) agreed that the direction, goal, and objectives of the training program were clear. These results are expected due to the fact of providing 2 h of a required orientation lecture that is provided before the beginning of the training. Providing an orientation session prior to the training will help to enhance the students' interest (Koenigsfeld and Tice, 2006). Although the manual of the training that contains these activities was sent to the preceptors and practice sites, some practice sites and preceptors did not allow the student to perform some activities. Therefore, an orientation for the preceptors should be provided and explain the activates that the students should do during their training to clarify the objective and goal of the training program. A previous study showed that preceptors want an orientation to be offered by the college prior to the training program (Kassam, 2006).

For the preceptor domain, students were asked to evaluate their primary preceptor pertain to his ability for effective preceptorship through this experience. Overall, (49%) and (37%) of the students strongly agree that their primary preceptors were interested in precepting students and was able to establish connection with the students. Academic-Practice Partnership Initiative of the American Association of Colleges of Pharmacy has identified preceptor criteria of excellence (Boyle et al., 2009). Preceptor need to be effective, enthusiastic, and demonstrate caring attitude towards student pharmacists. Preceptors understating of the benefits of precepting to the students, preceptor, and the site is important to optimize the pharmacy students experience in community pharmacy. Some benefits like provision of an increased enjoyment of practice, a sense of giving back to the profession, a decreased sense of professional isolation, and participating in training future professionals, and assistance in helping keep up with the latest literature were documented in the literature (Skrabal et al., 2006).

When students were asked whether the primary preceptors engage them to actively participate in discussions and problem-solving exercises, and how well the primary preceptor demonstrated his understanding of knowledge and his approach for therapeutic plan, about two-third of the students moderately to strongly agreed with this statement. This is lower than what has been reported in one study for community pharmacy in Canada

(93%) (Kassam, 2006). A possible explanation is that learning activities descriptions provided by the college were not clear enough for the preceptors as there were no previous orientation for the assigned preceptors in the community pharmacy (Kassam, 2006). Additionally, the 4-week length of the clerkship period was short to allow students to engage in various activities.

Establishing a training program for preceptors in community pharmacy in collaboration with the college of pharmacy or during preceptor recognitions gathering might be a good source to advocate the important assessment and feedback for the students which might help to improve the satisfaction of the students with preceptors. Moreover, feedback from the students should be delivered to the preceptors at the end of training. Doing this will give the preceptors an idea about students' opinion on their performance, which may help in improving their precepting skills. Also, the college activates a training committee to review the practice sites and curriculum vitae of preceptors before assigning them as preceptors.

Despite the fact that this type of training is considered the most patient-interactive experience, given the number of patients or guardians who visit community pharmacies daily, yet there was a quit high percentage of students who feel that they didn't get enough chance to talk or interact with patients. This could be due to several reasons such as limitation of counseling spaces, limitation of time spent in pharmacy, and shortage of staff (Alaqeel and Abanmy, 2015; Al-Arifi, 2012). On the other hand, the limited access to patient information is due to the lack of electronic system as well as the lack of cooperation between healthcare facilities and community pharmacies. Therefore, trainees in these sites may not get all of the required information from their patients and will rely on the prescription provided. National initiatives should be started to eliminate this gap between healthcare providers and promote health and safety by forcing national standards for community pharmacies to provide optimal patient care. Recently, new regulations for community pharmacy practice were published allowing community pharmacists to practice more patient-centered activities such as providing medication therapy management services, vaccination and measuring vital signs (Ministry of health, 2019). Getting the students involved in some of these new rules under their preceptor supervision may give them a better student-patient interaction experience.

In addition, some students still feel that this training experience is not the optimum learning environment given the limitation in interactions between them and both patients and other healthcare professionals. This could be improved by training the trainers to comprehend different training skills and by giving the trainees specific tasks that ensure their interactions with patients and healthcare professionals and in the same time promote patient health and safety.

Regarding skills domain, more than half of the student believed that their communication skills which include verbal and written skills were enhanced. This was one of the objectives of the community pharmacy IPPE. Students during this training experience interact with different level of health care provider such as pharmacist and physicians which will help students to develop and improve their communication skills (McDonough and Bennett, 2006). Effective communication skills are recognized as a vital component in pharmacy practice that could be enhanced by education and training (Wallman et al., 2013). The WHO report entitled *Preparing the Pharmacist of the Future: Curricular Development* that was published in 1997 mentioned the seven essential roles of the pharmacist, one of which was "communicator" as the pharmacist is in an ideal position between physician and patient which will help to achieve optimal therapeutic outcomes by ensuring the best medication use and enhancing patients' adherence through effective counseling and education (WHO, 1997; McDonough and Bennett, 2006).

Being a better pharmacist and enhanced clinical skills by applying knowledge is one of the most important objective of the community pharmacy IPPE. Students were allowed to provide medication counselling, review the medications history, and dispense the medication under supervision of the pharmacist. The results have showed that more than half of the students agreed that their clinical skills were enhanced which made them felt that this training experience helped them to be a better pharmacist. This results are similar to a study that was done to assess the application of medication therapy management in community pharmacy by students where the students their felt that they were able to apply the clinical skills, and knowledge that previously learned from the school curriculum (Hata et al., 2012).

In order to improve the IPPE experience and prepare the students for community pharmacy practice, the college of pharmacy at King Saud University just established a pharmacy practice simulation center including community pharmacy setting. The goals of the community pharmacy simulation are to provide space for students to understand the working environment of community pharmacy, enhance their communication skills, and to know the workflow of community pharmacy which will prepare them before the real practice. The simulation activities will include dispensing, preparing extemporaneous orders, communicating with healthcare providers, and providing counseling session. Also, the college of pharmacy decided to add a new community pharmacy course to the curriculum. This course will be focused on over the counter medications, community pharmacy workflow, and communication skills.

The limitations of this study were the small sample size and short training duration. Moreover, only male students participated in this study which could be also one of the limitations. Female students did not participate in this study due to the lack of training site availability for them in the community pharmacy at the time of running this study. Future study that take into consideration these limitations will help to understand the perception and satisfaction of the students which may lead to improve the designing of the IPPE.

5. Conclusion

Male pharmacy students were in general satisfied with community pharmacy IPPE. Their clinical and communication skills were improved. Pharmacy students were dissatisfied in regard to interaction with patients. Providing an orientation to the community pharmacy preceptor and granted electronic access of necessary information to the students might increase their satisfaction.

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