

Using volunteer simulated patients in development of pre-registration pharmacists: Learning from the experience[†]

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Abstract

Effective communication is recognised as a key professional skill for pharmacists. Pharmacy education has a relatively recent history of communication training. Content and methods vary widely and limited use is made of simulated patients (SPs). The purpose of this paper is to describe and evaluate a communication session that uses volunteer SPs to support the training of pre-registrant pharmacists (PRPs). The session enabled PRPs to interview an SP and observe their colleagues in different scenarios. Each group was facilitated by an experienced pharmacist. SPs, PRPs and tutors participated in feedback. Evaluation data was collected immediately after the session. Participants rated the session highly in terms of educational value. PRPs met learning objectives that focused on practice and reflection. Feedback on performance was highly valued. A volunteer SP session can support learning of PRPs. We do not know whether the benefits will have lasting value or translate into practice. Although we used volunteer SPs, scenarios with higher challenge are likely to require the use of professional SPs. Volunteer SPs provided an opportunity for direct involvement of users of health care services in health professional education.

Keywords: *Simulated patients, standardised patients, communication, role play, pharmacy education*

Introduction

Simulated patients (SPs) are widely used in medical education in formative and summative assessments (Van der Vleuten & Swanson, 1990; Vu et al., 1992; Barrows, 1993; Wind, Van Dalen, Muijtjens, Rethans, 2004; Adamo, 2003; Ker et al., 2005; Whelan et al., 2005). Given the extensive use of SPs, there is surprisingly little published information on their recruitment, preparation, training and feedback. A recent exception by Ker et al. (2005) is valuable in documenting these processes based on the extensive experience of the authors. There is also little published information about the use of SPs in pharmacy education.

Although real patients are critical for teaching and learning about communication skills in the health care professions, SPs also offer many benefits including the ability to adjust levels of challenge, to align scenarios

with curricula goals, the provision of immediate feedback (which is less likely to be compromised than from a real patient) and practise without risk to patients.

Communication training for pharmacists

Professional organisations and regulatory bodies expect that pharmacists are able to communicate effectively (Pharmaceutical Society of Australia, 2003; Pharmacy Board of Victoria, 2004; Royal Pharmaceutical Society of Great Britain, 2005). Our literature search provided a limited number of papers. National surveys of communication training in pharmacy schools in the UK (Hargie & Morrow, 1986), the US (Beardsley, 2001) and Japan (Arita et al., 2004) highlight broad disparities in timing, amount, content and educational methods. In the US Beardsley

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[†]All authors developed the project. AC and RE implemented the project. DN wrote the paper and AC and RE reviewed all drafts.

Table I. Summary of published papers and abstracts that include the use of simulated patients in pharmacy education.

Authors	Study population, sample size, country of study, SP characteristics	Study aim and context	Evaluation methods	Outcome
Collett et al. (1994)	3rd year undergraduate students ($n = 42$), England, SPs—recruited and trained in role-play and feedback	Evaluation of the role of SPs in formative assessments; identify strengths and weaknesses of students in patient interviewing	Semi-structured interviews, student evaluation form	Students and examiners reported SPs to be an acceptable way of learning and objective measure of performance
Austin and Tabak (1998)	Final year students ($n = 130$), Canada SPs—professional actors—experienced and trained in role-play and feedback	Description of a 10 week course based around a “family tree.” SPs portrayed members of the family	Student evaluation form	Students rated the programme highly, found the SP experience highly valuable and that the programme equipped them for clerkships and future pharmacy practice
James et al. (2001)	3rd year undergraduate pharmacy students, England, ($n = 91$) SPs—recruited and trained in role-play	Design and evaluation of a consultation skills programme (4×2 -h seminars)	Pre- and post-test questionnaires of self-report confidence, competence and degree of difficulty	Students’ confidence and competence increased and their perception of the degree of difficulty increased

(2001), concluded that communication training in pharmacy curricula is “haphazard and not well developed in some schools.” Further, the small response rate in his study may indicate that the real level of communication training is lower than that reported. About 74% of schools offered requisite communication courses. Different emphases in courses were placed on communication with patients and interprofessional communications. Educational methods included lectures, small group work, role-play and videotaping. The use of SPs was limited although recommended while assessments also varied.

Table I summarises studies reported in the literature that use SPs in undergraduate education and post-qualification training in communication skills.

Our challenge was to find a way to introduce SPs into pre-registrant pharmacist (PRP) training with a small budget. We developed a communication session using volunteers (unpaid) who are in the bank of SPs used by our medical school. This paper describes the feasibility of using volunteer SPs to support communication training in a pharmacy programme in Australia. The research question is:

- To what extent can a volunteer SP programme support the development of communication skills of PRPs?

Pre-registrant pharmacists

To become a pharmacist in Australia students undertake a 4-year Bachelor of Pharmacy degree, a pre-registration year in supervised training followed

by a registration examination. The registration examination involves several components, some of which use role-play. The participants in our study were half way through their pre-registration year. They had used role-play during their undergraduate programme, however they had no prior experience of working with SPs.

Methods

Simulated patient session

The aim of the session was to provide PRPs with an opportunity to practice communicating with patients in scenarios that reflect real life interactions.

The role of the SP was to provide a “safe” interaction in which PRPs could practice, reflect and receive feedback on communication skills. PRPs worked in groups of eight with an experienced pharmacist tutor and an SP. The 2-h session consisted of 8×15 -min segments enabling each PRP the opportunity to be the pharmacist in a 5-min role-play and then receive feedback from the SP, peers and tutor. Each role was played twice in each group, with a different PRP and SP. The session took place in a variety of connected spaces in the pharmacy school.

Simulated patient scenarios

The SP scenarios were developed to reflect everyday encounters in community pharmacy and included age and gender appropriate roles. Authenticity was achieved by broad consultation with practicing pharmacists. The scenarios reflected a range of commonly presenting interactions in which pharmacists are

Mr. or Mrs. Chris Conti, late 50s-early 60ish, requests a preparation for haemorrhoids
 "I'd like something to help with my, uhm, piles"

Behaviour, affect and mannerisms
 You are a shy person who is quite ready to answer questions but embarrassed about the nature of the symptoms. You are quite willing to co-operate and answer any questions necessary in order to get a product for your symptoms.
 You readily answer questions but are EMBARRASSED talking about haemorrhoids.
 Initially, when talking about haemorrhoids:

- Lower the volume of your voice
- Hesitate in your response to related questions (unless the student acknowledges the embarrassment)
- Avoid eye contact

History of the present illness
 You have had haemorrhoids for about a week. They are quite painful when passing a bowel motion. You have noticed blood on the toilet paper but there is no blood in the toilet bowl. There is no diarrhoea. In the last week or so the bowel motions have become harder and you needed to strain. You started taking some of your wife/husband's laxatives for a short time and the bowel motions are no longer hard.
 You had haemorrhoids about five years ago and used "some cream" to help fix them. When you used the cream last time you applied it externally and did not use the applicator.
 You usually try to eat a high fibre diet with lots of fluids. You usually walk every day. In the last few weeks you haven't been taking good care of yourself or your diet because your wife/husband is having radiation and chemotherapy for lung cancer. Your wife/husband was admitted to hospital last week because they couldn't eat or drink as a result of the radiotherapy and became dehydrated.
 You are feeling a little tired since you are nursing your wife/husband and are anxious because they are so sick at present.

Past medical history
 You have had high blood pressure for some time and take Noten- 1 tablet daily. The doctor was happy with your blood pressure the last time he measured it (about 2 months ago)
 You are not allergic to any medicines.

Social history
 You are retired and have been for a number of years
 You have a large family and a good support network
 You do not smoke
 You have an occasional glass of wine

Questions and prompts
 The above information should only be revealed in response to questions
 If you are asked about your haemorrhoids, diet or bowel motions tell the pre registrant pharmacist but only expand if they encourage you to do so
 If asked, the laxatives you are taking are called "Coloxyl and Senna"

Figure 1. Example of role for SP with haemorrhoids.

expected to be able to communicate effectively with patients (or clients). These were haemorrhoids, stress headache, hay fever and advice on smoking cessation (Figure 1).

Simulated patients

SPs were recruited from volunteers who also participate in the undergraduate medical programme at Monash University for which training is requisite. Selection was based on prior SP experience, availability and a willingness to work unpaid. Each SP rehearsed one scenario and rotated through eight groups during the 2-h session.

Prior to the session SPs received a written training programme that included information about:

1. The role of SPs in health care professional education
2. The teaching session
3. A list of patient-centred interviewing skills
4. A feedback protocol (Figure 2)

5. Guidelines for giving constructive feedback (Figure 3)
6. SP roles

A copy of the training programme can be obtained from the corresponding author. The list of skills and feedback protocols were intended as background information. SPs were strongly encouraged to give feedback from their own perspective. They were invited to telephone with questions in the fortnight before the session and then attended a 1-h briefing immediately prior to the session in which the objectives and logistics were explained and questions about roles were answered.

Pharmacist tutors

The tutors were experienced pharmacists who practice in community pharmacy and are familiar with the undergraduate programme. Tutors received a copy of the SP training programme, a feedback protocol (Figure 2) and guide to clinical aspects of the scenarios. Tutors also attended the SP briefing.

- Tutor introduces role-play task to pre-registrant and SP enters the room
- Pre-registrant conducts the interview with SP
- Nominated observer pre-registrant uses a list of skills as a guide
- Second observer looks for skills identified by the pre-registrant
- Tutor asks the pre-registrant:
 - **Can you briefly state how you felt during the interview?**
 - **Can you describe two aspects of the interview that worked well?**
- Tutor asks the SP:
 - **Can you identify two communication skills that the pre-registrant used that were effective?**
- Tutor asks the pre-registrant:
 - **Can you identify two aspects of the interview that you would do differently if you could repeat the interview?**
- Tutor asks the SP:
 - **Can you identify two communication skills that the pre-registrant could have used to improve the interaction?**
- Tutor summarises the feedback

Figure 2. Protocol for scenarios.

Evaluation methods

The session was evaluated by inviting all participants (PRPs, SPs tutors) to complete written evaluation forms immediately after the session. The evaluation

forms asked participants to rate, using a 4-point scale (*not at all (1), slightly (2), moderately (3) completely (4)*) the degree to which learning objectives were met and the value of educational methods. The forms have

1. Remind yourself of the purpose of feedback in this situation – Helping the pre-registrant pharmacist to communicate with patients
2. Think about what you want to say and how you want to say it
3. Try just to answer the questions that the tutor (and pre-registrant) ask you – Time will preclude much further discussion
4. Always identify strengths that the pre-registrant has demonstrated
5. You might like to think about the interview as having a beginning, middle and end and think about something from each phase that you found helpful or unhelpful
6. Give your own experience of the communication
 - “When you said read the instructions inside the packet, I thought that you could not be bothered to tell me what to do”
 - “When you smiled at me, I felt like you wanted to hear what I was saying”
 - “When you asked me about my drinking habits, I had no idea you meant alcohol”
 - “When you said ‘Don’t worry’ I felt really irritated because I was worried and you had no business telling me not to, I bet you’d worry if you found yourself sitting in a pool of blood! I felt really patronised”
7. You might consider that when identifying weaknesses, you can ask questions to help the trainee develop alternatives
 - “Can you think of different ways of...?”
 - “Sometimes I find it helpful...”
 - “When you did... I was wondering what would have happened if you’d done...”
8. Try to confine “negative” feedback to things that can be changed
9. Be honest – If you did not like the way a trainee interacted with you then tell them AND try to identify what it was about them that you did not like. It must be something that they can change!
 - “I did not like it when you spoke over me. I felt like walking away”
 - “You seemed very arrogant to me in the way that you used terms that I did not understand, your tone of voice was pompous and you could not look at me”
 - “I did not appreciate you asking me such personal questions in this public place”
10. Be accurate
11. Limit the use of generalizations
 - “That was good.” (State why it was “good” – You looked at me, I liked the tone of your voice and the pace of your speech. You didn’t fidget and it seemed to me like you really listened...”

Figure 3. Guidelines for giving feedback.

Table II. Pre-registrant pharmacists' (PRP) ($n = 97$) and tutors' ($n = 16$) ratings of the degree to which they met learning objectives (Percentages in brackets).

Learning objective	Not at all		Slightly		Moderately		Completely	
	PRP	Tutor	PRP	Tutor	PRP	Tutor	PRP	Tutor
To practice the use of verbal and non-verbal communication skills for interacting with patients	0	0	0	0	58 (59.8)	11 (68.8)	39 (40.2)	5 (31.3)
To recognise your strengths and weaknesses in communicating with patients	0	0	2 (2.1)	2 (12.5)	48 (49.5)	9 (56.3)	47 (48.5)	5 (31.3)
To practice the skills necessary to obtain an accurate history from the patient	0	0	6 (6.2)	0	45 (46.4)	10 (62.5)	45 (46.4)	6 (37.5)
To identify adequate choices regarding the provision of primary health care	0	0	14 (14.4)	0	57 (58.8)	13 (81.3)	26 (26.8)	3 (18.8)
To practice skills for communicating appropriate advice to the patient	0	0	3 (3.1)	0	46 (47.4)	13 (81.3)	48 (49.5)	3 (18.8)
To demonstrate tact and empathy when dealing with a potentially embarrassing complaint for the patient	1 (1.0)	0	9 (9.3)	0	49 (50.5)	8 (50.0)	38 (39.2)	8 (50.0)

face validity reflecting the aims and methods of the session. Forms were distributed immediately after the session and collected centrally prior to participants departing. Responses were anonymous.

Quantitative data was analysed using SPSS 11.5. χ^2 square statistic was used to compare PRPs' and tutors' responses with significant levels set at $p < 0.05$. Qualitative data was analysed thematically by the authors. Key themes were identified independently and then negotiated for agreement. All participants consented to participating in the session and sharing their feedback.

Results

Pre-registrant pharmacists

Of the 121 PRPs who attended the session, 97 (79%) completed evaluation forms. Using the rating scale described above, PRPs rated the degree to which they met learning objectives, the value of the educational methods and were asked for suggestions to improve the session. Table II shows that at least 83 PRPs (86%) reported either *moderately* or *completely* meeting all learning objectives. The learning objectives on recognising strengths and weaknesses (48; 50%) and

the opportunity to practice (47; 49%) were the most *completely* met objectives.

Table III shows that at least 80 (81%) of the PRPs rated the educational methods as at least *moderately* valuable. Participating in role-plays was the most favourable rated educational method with 69 PRPs (71%) rating this as *completely* valuable. Feedback from tutors was rated as *completely* valuable by 58 (60%) pre-registrants followed by feedback from SPs (37; 38%) and peers (36; 37%).

PRPs were asked which scenario was the most valuable for their learning. Some PRPs indicated more than one scenario. The most valuable scenario was that on haemorrhoids (43; 44%) followed by smoking cessation (42; 43%), stress headache (20; 21%) and hay fever (8; 8%). Reasons given for the value of the haemorrhoids scenario included the opportunity to practice dealing with an embarrassing situation, communicating with a shy patient and the use of tact. Smoking cessation offered the opportunity to explore a complex situation, practice giving information in a concise and understandable manner and emphasised the importance of taking a social history. Both scenarios explored areas that were relatively new to the clinical experience of pre-registrants.

Table III. Pre-registrant pharmacists' (PRP) ($n = 97$) and tutors' ($n = 16$) ratings of the value of the educational methods—(Percentages in brackets).

Educational method	Not at all		Slightly		Moderately		Completely	
	PRP	Tutor	PRP	Tutor	PRP	Tutor	PRP	Tutor
Observing role-plays	0	0	3 (3.1)	2 (12.5)	40 (41.2)	6 (37.5)	54 (55.7)	8 (50.0)
Participating in role-plays	0	0	2 (2.1)	0	26 (26.8)	3 (18.8)	69 (71.1)	13 (81.3)
Feedback from SPs	1 (1.0)	0	9 (9.3)	2 (12.5)	50 (51.5)	6 (37.5)	37 (38.1)	8 (50.0)
Feedback from peers	0	0	17 (17.5)	4 (25.0)	43 (44.3)	9 (56.3)	36 (37.1)	3 (18.8)
Feedback from tutors	0	0	5 (5.2)	0	34 (35.1)	10 (62.5)	58 (59.8)	6 (37.5)

Free text comments all strongly supported the session with particular emphasis on the value of SPs in role portrayal and feedback.

“Had a chance to interact with ‘real’ patients and not just other pharmacists who knew what you were talking about.”

“Puts everything you know into practice.”

“Just good to confirm all the things that we have been learning in a simulated environment.”

“Good because you get feedback from various perspectives.”

“It was great to actually have patients instead of having to pretend lecturers and peers were patients—definitely should be used more.”

“Very valuable experience”

“It was the best activity we have ever done at uni.”

Tutors

All 16 tutors completed evaluation forms. Tutors’ perceptions of the degree to which learning objectives were completely met were similar to those of the PRPs except for two objectives: *to recognise your strengths and weaknesses in communicating with patients* and *to practice skills for communicating appropriate advice to patients* for which tutors reported less success. However, using a chi-squared test there were no statistically significant differences between tutors and PRPs ratings.

For educational methods, tutors rated feedback from peers and themselves less favourably than PRPs. All tutors reported that the feedback protocol was either *moderately* or *completely* valuable. Tutors were divided about the value of each scenario suggesting that each offered different experiences and that the cumulative experience addressed a broad range of objectives. Suggestions for improving the session include introducing props (e.g. common over-the-counter medicinal products, patient information leaflets), raising the level of challenge in relation to the expressed emotion of SPs (e.g. aggressive, grief stricken), more variety in role-plays, more detailed briefing for PRPs, better time management and the opportunity to record and review interactions using videotape replay.

Tutors free text comments were all supportive of the session.

We need more SPs and more practice for the students.

The SPs were excellent—I think the students really benefited by having a patient who was not known to them.

I thought that the role-plays were all valuable—in different aspects. It is important for the pre-registrants to experience different scenarios and ask different questions.

...because it covered all aspects of what you may face in the real world.

On the whole, I thought it was fantastic. Most students gained something out of it, even if they didn’t know it. Experience with role-plays in the best way of learning.

Simulated patients

All SPs completed evaluation forms. The SPs ranged in age from 17 to 64, there were 4 males and 12 females. Using a 4-point scale, SPs were asked to rate the helpfulness of the training package in preparing them for their roles and for giving feedback. Nine (69%) SPs rated the package as *completely* helpful for role preparation and ten (77%) thought the package was *completely* helpful for feedback. The remaining SPs (23–31%) rated the training package as *moderately* helpful. All SPs reported *completely* enjoying the teaching session.

In response to open-ended questions, SPs reported that the training package was clear, detailed and easy to understand. Suggestions for improvement included travel directions to the session, highlighting key issues in the scenarios (e.g. other medications, illnesses and family history) and additional examples of giving feedback. There was a request for information to enhance role authenticity (e.g. include information such as the number of cigarettes in a packet).

SPs identified aspects of the teaching session that worked well and this included the warm welcome, the informal and relaxed atmosphere, the size of groups, the presence of a tutor, repeating the roles and the availability of OTC medicinal products (provided by one tutor in one group). Suggested improvements to the teaching session included opportunities to increase feedback especially from peers and creating a more realistic setting. General comments praised the effective organisation and supportive qualities of tutors.

Discussion

The results strongly suggest that volunteer SPs can support training in communication for PRPs. The session is innovative for pharmacy education with little evidence in the literature of the use of volunteer SPs. The session drew on principles of adult education such as the learner-centred small group exercises, scenarios grounded in real work experience and the timing of the sessions at a period of readiness to learn in relation to forthcoming examinations (Knowles,

1984). Additionally, theories of co-operative learning (Brufee, 1999; Jacob, 1999) and reflective practice (Schon, 1987) were important with all participants expected to draw on and value others' observations and feedback as well as promoting reflection.

Given that community pharmacists are uniquely positioned to interact with patients in all aspects of medication administration (Worley-Louis, Schommer, Finnegan, 2003) and that pharmacists are spending more time on client communication (Droege, 2003) we believe that opportunities for pharmacy students to observe and rehearse the sorts of skills required for safe and effective communication are critical for safe practice. Our session is one example of training to support the development of appropriate communication skills.

Unlike the participants in the study by Austin and Tabak (1998) our PRPs did not express anxiety about working with SPs but this is not surprising given the different circumstances—we were working in formative rather than summative assessments.

Learning objectives

The learning objectives were largely skills-based although the least well met learning objective was knowledge based—*To identify adequate choices regarding the provision of primary health care*. Future sessions could provide PRPs with preparatory information on such choices while small group discussion could elaborate this information. Further, roles could be developed so that SPs request options in treatment and therefore actively address this learning objective.

Educational methods: Simulated patients

SPs were highly valued by PRPs and tutors for their authenticity in role portrayal as well as their ability to provide feedback. However, even greater authenticity may be achieved by including real patients in the role development phase (Black et al., 2006) rather than focusing only on faculty and practising pharmacists for authentication of roles.

Educational methods: Feedback

PRPs rated feedback from tutors as the most valuable source of feedback which may reflect the professional expertise of tutors. However, it may also reflect the ways in which sessions were structured. Tutors were responsible for facilitating the feedback process and may have taken more time with their own feedback than either peers or SPs. Comments from SPs suggest this may have been the case for some tutors.

Evidence from other health care professions suggests that trainees are appreciative of any feedback from experts (Holmboe, Yepes, Williams, Huot, 2004). Although the feedback protocol was reported

to be valuable, we cannot be certain that tutors used it as intended. Providing a protocol ensures that all participants have some knowledge of the process prior to the session. Given the critical nature of feedback for professional development, it is important to improve its quality from all participants. This may be achieved by focused teaching on ways to give constructive feedback in an experiential preparatory session in which tutors and SPs work together. However, there are constraints in gaining access to volunteer SPs and tutors over and above that which we had.

Session improvements

All suggestions to improve the session have been considered and some will be incorporated in future sessions (e.g. time management, more information in SP roles). However, others are impracticable in the current structure of the programme although we recognise their value (e.g. videotape review, combined SP and tutor training). The suggestion to raise the level of challenge by increasing the emotional expression of SPs may not be within the acting capacity of volunteers. Most of our volunteers have no formal acting experience, which is likely to be essential for authentic performance in emotionally charged scenarios. It is for these roles that professional SPs are most likely to be required. Austin and Tabak (1998) reserve the use of professional SPs until the final year of the programme since the level of challenge of scenarios was likely to be beyond the capacity of volunteers.

Most of our SPs were female. Although this may reflect patterns of consultation in community pharmacy it was exaggerated. Additionally, our sample of SPs was weighted towards younger patients when community pharmacists are as likely to deal with older patients.

Administrative issues

There is a great deal of administrative work associated with SP programmes. The use of volunteers meant the session could happen because there were minimal direct financial costs. Piloting projects like this with volunteers may provide faculty unfamiliar with the role of SPs with evidence of their value enabling accommodation in future budgets. Importantly, it provides a means by which the general public can contribute directly to pharmacy education.

We had access to SPs through our medical school. Sharing SPs between schools may be one way in which allied health care professions can implement such sessions. It also economises on generic training.

Limitations

Although a strength of the study is the triangulation of data by gathering feedback from PRPs, tutors and SPs, we recognise the limitations of such evaluations.

That is, immediate measures of satisfaction with the educational experience. We have no insight into whether this changes the way in which PRPs will practice. Our evaluation methodology met our need to gain an understanding of all participants' experiences of the session as well as being manageable on a practical level. The evaluation method may have additional benefits by prompting PRPs to reflect on all aspects of the session in relation to the educational objectives. The analysis of qualitative data was performed by the authors, two who taught in the session (RE & CA) and one responsible for the session design and SPs (DN). Although we obviously have an interest in the outcome, we believe the methods used were sufficiently rigorous to prevent bias in interpretation. This is reinforced by the quantitative data adding weight to the qualitative results. That is, there were no contradictions in data sets.

Additional limitations include that non-responder PRPs might have differed in some way to the responders and so biased our findings. We also recognise that our evaluation data does not include objective measures of performance.

Future developments may include introducing similar sessions earlier in the curriculum, setting the scenarios in simulated and real work settings, developing scenarios in which PRPs have more input into the communication challenges they would like to address. We also do not know whether such sessions are sustainable. That is, will volunteers be willing to continue to contribute their time and expertise.

Conclusion

This session provided an opportunity to evaluate the use of volunteer SPs to support communication training of PRPs. The results suggest that PRPs benefited from the experience. The evaluation highlights aspects of the session that worked well (e.g. structured and focused learning objectives, experiential educational methods, structured feedback) and those that need improvement (e.g. more detail in SP roles, time management).

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