



RESEARCH ARTICLE

# Integration of the patient partner in simulation-based learning in initial pharmacy training

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## Keywords

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## Abstract

**Background:** Over the years, role-playing simulations have gradually become part of pharmacy teaching. The aim of this study is to characterise the potential of the patient partner, in relation to the student and the teacher, to interpret the role of the patient and to carry out the debriefing during role-playing simulations of pharmaceutical dispensing. **Methods:** Experimental simulations were set up to compare students, patient partners and teachers in the role of patient. Each simulation was subject to observations (n = 30) focusing on the quality of the role plays and debriefings performed. **Results:** In addition to the realism provided, the patient partner showed the greatest adaptability in their roles of his role, able to both make more complex and simplify the situation according to the student's needs. Regarding the debriefing, the teacher seemed to be the one most able to detect the points of improvement in the performance achieved regarding communication and pharmaceutical skills. **Conclusion:** Students, teachers or patient partners bring different resources that should be used thoughtfully by teachers according to the educational objectives of the simulation. However, it is important to be aware that the ability of the patient partners to participate in such lessons depends on their training and experience.

## Introduction

The active involvement of patients in the healthcare system is always a challenge. Recognition of their experiential knowledge, derived from their daily experience with the disease, gives them care skills that may complement those of health professionals. The classical "patient-caregiver" model leaves behind a "paternalistic" approach and turns to a "partnership" considering the patient "as a caregiver and a full member - a partner - of the care team" (Pomey *et al.*, 2015; Flora *et al.*, 2016). Then, the patient has the decision-making power to make informed choices about his/her health. The Montreal model extends this vision of partnership beyond the care pathway: the patient becomes a partner at various levels of the health system, such as the governance of care, research and teaching (Pétre *et al.*, 2020). For the involvement of patient partners to be beneficial, their integration

into the care system becomes an institutional issue (Boivin *et al.*, 2018).

In the teaching area, the involvement of the patient partner is varied, ranging from testimony regarding the relationship to the chronic illness to much closer collaboration with the teacher regarding the design of the training (Université de Genève, 2007; Berlin *et al.*, 2011; Goulet *et al.*, 2015; Flora *et al.*, 2020). According to several studies, integrating the patient partner into simulation-based training helps to develop the reflective abilities, communication skills and self-confidence of health students (Rickles *et al.*, 2009; Duong *et al.*, 2016; Gillette *et al.*, 2017). In the long term, this improves the patient-caregiver relationship and makes patient care safer (Gillette *et al.*, 2017; Deluche *et al.*, 2020). The French public health code introduces the notion of partnership in education in France, supporting the need to "promote the participation of patients in the practical and theoretical

training" of health students (Journal officiel de la République française, 2019).

In the case of UGA (Grenoble Alpes University, France), the fifth year of the pharmacy school curriculum includes simulation-based training in the form of role-playing games. The simulation exercise reproduces the dispensing activity in the community pharmacy. It involves three participants. A student or the teacher interprets the standardised patient. Another student plays the pharmacist role, and the third student is an observer. Role-playing is a pedagogical learning technique based on the simulation of a realistic professional situation. The participants improvise the dialogue by playing a more or less determined fictional role (Haute Autorité de Santé, 2012). When the patient is standardised, this means that his or her role is strictly predefined based on a scenario from which he or she cannot deviate. This allows several people to play the same role (Haute Autorité de Santé, 2012).

Within the framework of university training in pharmaceutical sciences, and during the CoViD-19 university shutdown, remote pharmaceutical interviews with patients who are partners of the UGA were experimented (Allenet *et al.*, 2022). A qualitative survey of the students who participated in this study showed that 90% of them were satisfied with the exercise to the point of wanting to integrate it fully into their teaching. Students particularly emphasised the fact that they were gaining communication skills and grounded knowledge about chronic diseases and their associated treatments. These results lead us to question the integration of patient partners into the simulation-based courses offered in the fifth year of pharmacy studies.

The objective of this study is to characterise the potential of the patient partner in relation to the students and teachers, to interpret the role of standardised patients and to participate in the debriefing during role-playing simulations. The results will allow us to optimise the pedagogical potential of the simulation-based teaching currently proposed to the students in the fifth year of pharmacy at UGA and to perpetuate the collaboration of the UGA patient partners in health teaching.

## Methods

Role-play simulations replicating the dispensing activity were set up to compare the patient partner ( $n = 1$ ) to the students ( $n=10$ ) and to the teacher ( $n = 1$ ) in the role of the standardised patient. These simulation exercises ( $n = 30$ ) were conducted in two stages: first, with a

student in the role of the standardised patient ( $n = 10$ ) and then, in a second stage, with the patient partner ( $n = 10$ ) or teacher ( $n = 10$ ) in the role of the standardised patient (Figure 1) (same patient partner and teacher during the whole process).

The educational objectives of the simulation exercises are to train students to collect data in a dispensing situation, to analyse prescriptions and to formulate an action plan to resolve any problems identified.

The scenario of the simulation exercises was designed from a real clinical case inspired by the teachers' professional practice and qualitative studies on the desired pathology. This scenario was identical between the three experimental arms and did not include any personal data of the patient partner. The complexity of the scenarios depends on the pathology studied, the nature of the prescription, and the character given to the patient. This complexity is adapted by the expertise of teachers according to the academic level of the students.

Each simulation included the three classic times of briefing (5 minutes), simulated situation (10 minutes) and debriefing (10 minutes). The briefing was performed by the investigator (main author) in the "student" and "patient partner" experimental arms and by the teacher in the "teacher" experimental arm (Figure 1). In the "student" experimental arm, two students successively interpreted the pharmacist role for the same simulated situation. In the "patient partner" and "teacher" experimental arms, only one student interpreted the role of the pharmacist for each simulation exercise. Any time during the simulation, the student playing the role of the pharmacist could ask to discontinue. Each debriefing was conducted with all participants in the simulation exercise without intervention from the experimenter (Figure 1).

Once all the simulation exercises had been completed ( $n = 30$ ), a general debriefing was carried out with all the participants in the study (all students, the patient partner, and the teacher). The purpose of this debriefing, led by the teacher, was to discuss the experiment and also to summarise the key points of the case proposed during the simulation exercises.

With regard to evaluation, each simulation exercise was observed by the main investigator with an interest in the performance of the participants in the role of the standardised patient:

- during the simulated situation using an observation grid with the following criteria: the respect of the scenario, the interpreter's ability to adjust the complexity of the situation and the number of times the simulated situation was discontinued by the student. These criteria focus on the ability of

standardised patients to adapt their interpretation based on student's skills.

- during the debriefing, using an observation grid with the following criteria: the ability to raise the strengths and weaknesses of the performance and

the ability to give advice to the students interpreting the role of pharmacist for progress on communication and pharmaceutical skills. These criteria characterise the ability of standardised patients to guide students' reflection about their performance to optimise their learning.

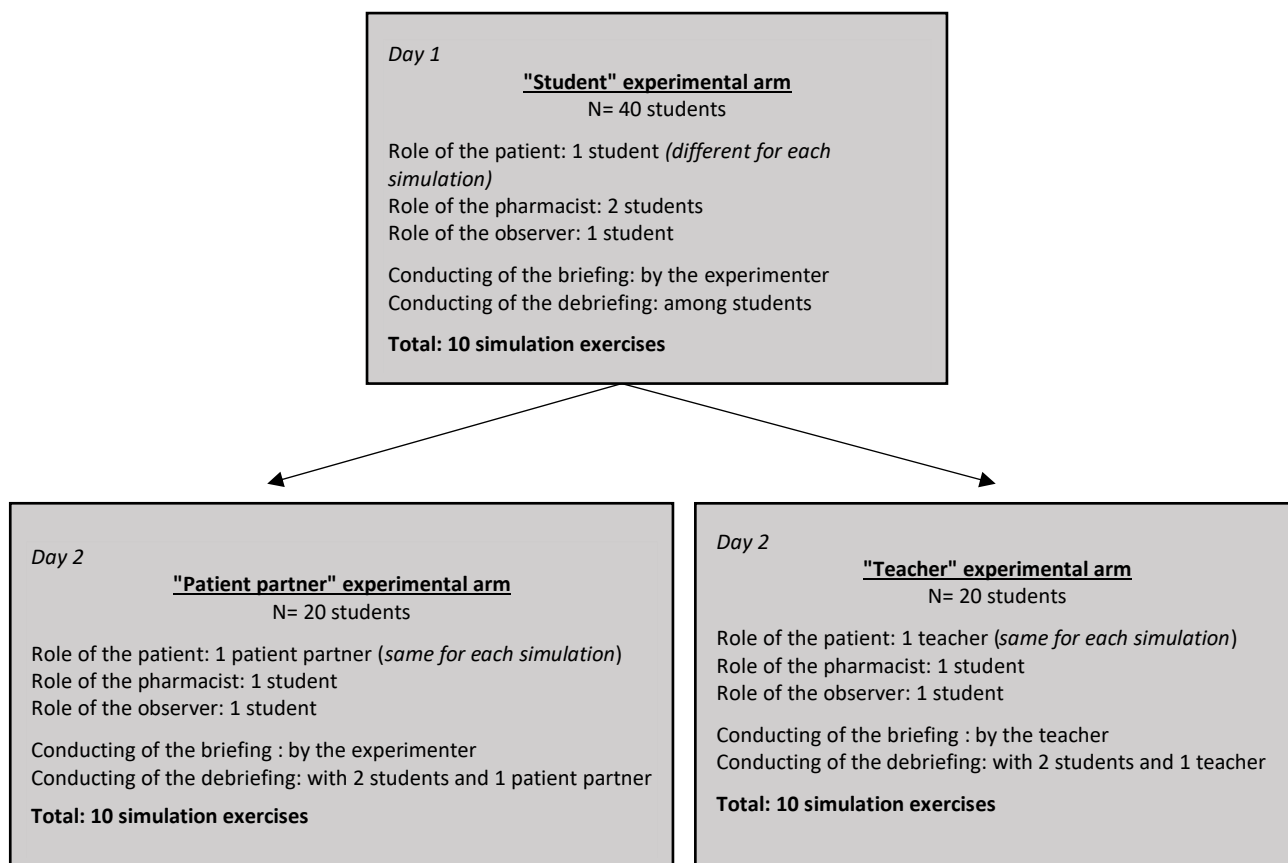


Figure 1: Organisational diagram of the experimental simulation exercises

## Results

### Analysis of the performance of the standardised patient during simulation exercises

Regarding the performance of participants in the standardised patient role, the number of deviations from the scenario was greatest in the "teacher" experimental arm (Table I). The nature of these deviations was mostly related to showing a high level of knowledge of the treatments provided, whereas the scenario stipulated a total lack of knowledge on the part of the patient about their treatments.

In order to guide the students playing the role of a pharmacist in carrying out this exercise, the method mainly used by the different interpreters consisted of

insisting, by repetition, on certain key notions of the case (Table I). On the other hand, to make the situation more complex, the method mainly used was to question the pharmacist and thus test his knowledge (Table I).

In the "patient partner" experimental arm, the standardised patient interpreter was able to simplify and make each simulation exercise in which he participated more complex.

In the "patient partner" and "teacher" experimental arms, no student playing the role of pharmacist dropped out during the simulated situation. However, in the "student" experimental arm, nearly half of the students playing the role of pharmacist dropped out before the end of the simulation.

**Table I: Results of the observation grid concerning the performance of the standardised patient during simulation exercises**

|  | "Student" arm | "Patient partner" arm | "Teacher" arm |
|--|---------------|-----------------------|---------------|
| <b>Respect of the scenario</b>   |               |                       |               |
| Number of simulations in which the patient interpreter followed the scenario   | 6/10          | 9/10                  | 2/10          |
| <b>Ability of the standardised patient to adapt his/her speech to simplify the situation</b>                             |               |                       |               |
| Number of simulations where the situation has been simplified (key notions of the case repeated, exchanges restarted...) | 8/10          | 10/10                 | 10/10         |
| <b>Ability of the standardised patient to adapt his/her speech to make the situation more complex</b>                    |               |                       |               |
| Number of simulations where the situation was made more complex (closed answers, questions asked to the pharmacist...)   | 10/10         | 10/10                 | 7/10          |
| <b>Completion of the entire exercise</b>   |               |                       |               |
| Number of students playing the role of pharmacist who dropped out of the simulation                                      | 8/20          | 0/10                  | 0/10          |

**Analysis of standardised patient performance during debriefings**

Regarding the analysis of performance by participants with the standardised patient role, the patient partner raised the most strengths in terms of the pharmaceutical skills and communication skills of the student interpreting the pharmacist role (Table II).

The teacher raised the most performance improvement points, particularly regarding

pharmaceutical skills (Table II). The teacher also provided the most advice to the student, interpreting the pharmacist to improve future performance.

Whether it is the patient partner or the teacher, the amount of advice given to the pharmacist is consistent with the amount of improvement points raised (Table II).

**Table II: Results of the observation grid concerning the performance of the standardised patient during debriefings**

|  | "Student" arm | "Patient partner" arm | "Teacher" arm |
|--|---------------|-----------------------|---------------|
| <b>Ability to raise the strengths of the performance achieved by the student interpreting the pharmacist</b> |               |                       |               |
| Number of simulations where performance strengths regarding pharmaceutical skills were raised                | 5/10          | 10/10                 | 9/10          |
| Number of simulations where performance strengths regarding communication skills were raised                 | 5/10          | 10/10                 | 4/10          |
| <b>Ability to raise points of improvement in performance achieved by the student interpreting pharmacist</b> |               |                       |               |
| Number of simulations where points of improvement regarding pharmaceutical skills were raised                | 8/10          | 7/10                  | 10/10         |
| Number of simulations where points of improvement regarding the communication skills of were raised          | 0/10          | 3/10                  | 6/10          |
| <b>Ability to provide advice to improve performance by the student interpreting the pharmacist</b>           |               |                       |               |
| Number of simulations where pharmaceutical competency guidance was given                                     | 5/10          | 7/10                  | 9/10          |
| Number of simulations where communication advice was given   | 0/10          | 3/10                  | 6/10          |

**Discussion**

Few comparative studies demonstrate the potential of patient partners to participate in simulation-based health education (Bordes, 2018). This study investigated the integration of a partner patient within role-playing simulations in the teaching of fifth-year pharmacy

students. The results obtained allow us to characterise the patient's potential to interpret the role of a standardised patient and to participate in the debriefing in relation to the students and teachers. During simulation exercises, the student experimental arm had a large number of dropouts, compared to none in the patient partner and teacher experimental arms. These

results be explained by a lack of quality in the briefing and by the difficulty of the simulation exercise. The briefing, which is often neglected, is of major interest: it allows the creation of an environment that is conducive to the smooth running of the scenario and the debriefing and thus encourages learning. Among the key steps of the briefing, a fictional contract must be made between the trainer and the learners: the trainer commits to creating an optimal environment for the simulation, and the learners commit to fully invest themselves in this simulation (Rudolph *et al.*, 2014; Charles & Desanlis, 2017). In the "teacher" experimental arm, the briefing was carried out by the teacher himself because he was familiar with the technical aspects of this exercise, unlike the students and the patient partner. In the "student" and "patient partner" experimental arms were conducted by the investigator, who did not actively participate in the rest of the simulation exercise. Under these particular conditions, student involvement can, therefore, be difficult. Concerning the difficulty of the simulation exercise, it can be attributed to the choice of the scenario and the quality of the interpretation of the standardised patient. The teacher usually in charge of supervising the simulation exercises designed the scenario in consultation with other experienced teachers in the field. The design of a problem-solving simulation exercise is based on the notion of didactic variables defined as "the dimensions of the action or of the information intake on which a simulation designer can play to increase or decrease the difficulty of a problem" (Pastré *et al.*, 2006). The situations proposed in the simulation must confront the learners with a problem for which they do not have any procedure of resolution (Pastré *et al.*, 2006). However, they must have the necessary resources to achieve this resolution based on their knowledge and the elements made available in the simulation environment. It is, therefore, essential for experienced trainers who are aware of students' skill levels to be at the origin of the scenario design. The quality of the interpretation of the standardised patient is dependent on the skills of the role player. The students showed difficulties in following the scenario. They were able to make the situation more complex and/or simpler, but this was perhaps not always adapted to the abilities of the student pharmacists, which partly explains the high rate of abandonment of the simulation in the "student" experimental group. It should also be noted that in the "student" experimental arm, two students took turns playing the role of pharmacist in the same simulation exercise: this can make it difficult for students to get involved. This organisation allows a larger number of students to take part in the simulation exercises, but it does seem to have its limitations. The teacher is the one who has made the most deviations from the scenario in his interpretation of the patient. The deviations were particularly related to knowledge of the

prescribed treatments, demonstrating their difficulty in disregarding their role as teachers. The teachers were able to simplify situations when necessary, but also, to a lesser extent in relation to the other stakeholders, to make them more complex. Concerning the patient partner, it proved to be the most suitable for adapting to the student pharmacist's abilities. On the one hand, he strictly respected the scenario even though it was different from his personal history. On the other hand, he managed to appropriate the scenario in order to modulate his interpretation with pedagogy, capable of simplifying and complexifying the situation according to the performance of the students in each group. This faculty constitutes one of the strong points of simulation: to handle with discernment the different values that can be taken by the didactic variables of the learning situation in order to accompany the learners « to better reason their action » and avoid setting them up for failure (Pastré *et al.*, 2006).

The observation of the debriefings allowed us to characterise the performance analysis abilities of the different stakeholders in the role of standardised patient. Students generally raised the fewest strengths and areas for improvement regarding the performance achieved. They were also not always able to provide advice. Students are in training; therefore, conducting a peer-only debriefing may be limited. In addition, there is also a social desirability bias: students do not dare to express negative remarks for fear of hurting their peers and giving a bad image of themselves. Explicit debriefings, structured and strongly guided by the trainer, are more effective for novice learners (Secheresse, 2020). The teacher was the one who raised the greatest number of points for improvement concerning the performance of the students. Indeed, he knows perfectly well the knowledge and skills to be acquired by the students. He also knows « his » students and their usual performance. For each point of improvement raised, the teacher accompanied his words with advice, allowing the students to find tools to improve their performance. The points of improvement raised were mostly related to pharmaceutical skills. However, it is necessary to chronologically resituate the study in the students' university curriculum: about 30 simulation exercises had already been carried out prior to the study. Therefore, students were able to perfect their communication skills. Pharmaceutical skills are mainly dependent on the chosen medical theme. The patient partner brought up the most strengths regarding the performance achieved by the students. He was able to address both pharmacy and communication skills. His experience with the disease has given him pharmaceutical knowledge that was not necessarily expected, as the simulation scenario did not involve his usual treatments. The pathology studied during the

simulation exercise was, however, close to the pathology of the patient partner. It is also important to remember that only one patient partner participated in this study, and he had experience in health education (5 years of experience as a university teacher and also a Patient Education practitioner), which surely grants him abilities that more novice patient partners would not possess. Like the teacher, a tip to help the student progress accompanied each point of improvement raised. This advice, combined with the realism of simulation exercises in the presence of the patient partner, gives students a better understanding of what patients expect from their pharmacist.

Students, teachers and patient partners, therefore, bring different resources that teachers should use thoughtfully according to the educational objectives. It is necessary to adapt to the difficulty of the situations and to split the learning to make it more beneficial and more precise (Allenet *et al.*, 2022). In this sense, the participation of the different participants in the role-playing game makes it possible to create a diversity of situations offering varied and targeted learning objectives. The use of simulation exercises between students would seem to be more suitable for learning about communication skills, which are easier for students to analyse during training. Teacher and patient partner involvement needs to be implemented later to deepen students' knowledge and allow them to develop more advanced skills. However, the integration of patient partners into simulation exercises requires the implementation of a training and follow-up system to secure and enhance their participation in the lessons learned. Few studies on the simulated patient technique mention the training provided beforehand (Seybert *et al.*, 2019). The standardised patient programme at the University of Geneva includes special training for standardised patients (Université de Genève, 2007). In France, some organisations offer training to design a simulation programme, including a standardised patient to ensure quality recruitment and training (Lewis *et al.*, 2017). On the other hand, it is also becoming possible for patients to have access to diploma courses in various fields, such as, for example, therapeutic education (Université des Patients Paris-Sorbonne, 2021). Finally, the partnership with the patient does not end with the participation of the patient partner in the teaching itself: he or she can also, for example, participate in its design. On the other hand, according to the HAS (Haute Autorité de Santé & Société Francophone de Simulation en Santé, 2019), the design of simulation programmes must include details of the educational objectives. Therefore, participating in the design of simulation programmes offers the opportunity for the patient partners to clearly understand what is expected of their performance and that of the students during the simulation.

## Conclusion

The study was interested in integrating a patient partner within a role-playing simulation in the teaching of pharmacy students. The results obtained made it possible to assess the potential of the patient partner for the teacher or the students to interpret the role of the standardised patient and participate in the debriefing.

Provided that they are sufficiently trained, the patient-partner may be able to use a standardised scenario with pedagogy and analyse the performance achieved by the students during the debriefing.

These promising results suggest the possibility of integrating role-playing simulations with a patient partner into the academic curriculum of pharmacy students.

However, to consciously take advantage of patient partners' participation, the educational objectives of the teaching should be defined in a way that is consistent with their abilities, and an appropriate training and follow-up system should be established.

## Conflict of interest

The authors declare no conflict of interest.

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