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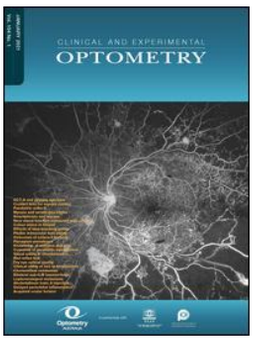

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RESEARCH

Use of standardised patients in optometry training

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ABSTRACT

Clinical relevance: The ability to articulate clinical findings to patients through effective communication is a key skill in all health-care professions.
Background: Unannounced standardised patients (SPs) are successful in measuring quality of clinical care provided by qualified optometrists but have not been used in optometry training. Final-year undergraduate optometry students examine members of the public during primary care clinics observed by visiting clinical tutors (VCTs) who provide individualised feedback, highlighting areas for improvement. This pilot study investigates whether unannounced SPs can be used as an additional resource providing enhanced feedback on communication skills in undergraduate optometry education.
Methods: Two SPs received intensive training on reporting on students eye examinations and communication skills through completion of pre-designed checklists for each patient encounter. Each SP presented 16 times as an unannounced patient for routine eye examinations. SPs' comments on communication skills of 32 students during 32 examinations was compared to feedback from 10 VCTs. SPs' performance was monitored to ensure consistency. Evaluation of differences in quality and quantity of feedback provided by SPs and VCTs was performed using thematic analysis and chi-squared tests. Student feedback on the use of SPs was obtained on completion of the study.
Results: Qualitative thematic analysis revealed six overarching themes emerging from 64 sets of feedback. SPs gave significantly more feedback, both positive comments and comments with recommendations, than VCTs for the (a) total number of comments for each theme ($p = 0.0000$) and (b) detail and depth of these comments. Students reported that SPs commented on aspects of communication (e.g., establishing rapport and body language) not noted by VCTs.
Conclusions: Unannounced SPs can provide enhanced feedback on communication skills to final-year undergraduate optometry students. Students greatly valued VCTs feedback; however, they felt SPs commented on elements of communication not noted by VCTs.

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Introduction

The ability of practitioners to articulate clinical findings and their management is a vital skill in all health-care professions and strongly contributes to overall patient satisfaction. Research has highlighted the benefits of effective communication, where the perceptions of patients of the quality of the health care received is highly dependent on the quality of interactions with their health-care practitioner.[1,2] This leads to better health-related outcomes[3] and patient satisfaction, and recognition of these factors has resulted in specific provider-patient communication training programmes in medicine, nursing, dentistry, and other health professions, yet there are few examples in optometry.[4] For enhancement of communication skills, it is well established that medical educators should use experimental rather than purely didactic methods[5] to enable acquired skills to be integrated into clinical practice.[6,7]

The use of standardised patients (SPs) in education, training and assessment of health-care practitioners has been recognised for over 50 years, though there are variations in the roles played by individuals during simulated health-care encounters.[8] A simulated patient (SiP) mimics signs and symptoms of an actual patient. An SP is a specific type of SiP trained to give consistent verbal and behavioural responses to the examiner and complete a checklist that allows an assessment of the examination. SPs are used in clinical skills training and assessment of medical students[8,9]; in audiology[10]; to teach interprofessional competencies in dentistry[11]; to develop communication skills in nursing[12] and in optometry.[4] Unannounced SPs were successful in measuring the quality of clinical practice for qualified United Kingdom (UK) optometrists.[13–15]

A 'core competency' describes the knowledge and skills an optometrist must possess in order to register with the General Optical Council (GOC) and practice in the UK. Table 1 lists the core competencies relating to communication in the UK. Final-year undergraduate optometry students must demonstrate these competencies while examining members of the public under supervision by Visiting Clinical Tutors (VCTs) during primary eye-care clinics. At City, University of London each VCT observes two students simultaneously. Students receive individualised feedback following each examination, emphasising strengths and areas for improvement. Providing this feedback is an integral part of students' teaching and learning, promoting development of generic skills by focusing on evidence of the use of skills rather than on content.[16]

SPs are unique because they can be trained to give feedback from a patient's perspective[8] both 'in character' and 'out

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Table 1. Specific Stage 1 Core competencies relating to communication that each optometry graduate in the United Kingdom must be competent in prior to progressing to their pre-registration period.

	Core Competency: Communication Skills
1.1.1	• Ability to communicate effectively with the patient, taking into account his/her physical, emotional, intellectual and cultural background—building a rapport
1.1.4	• Ability to make a patient feel at ease and informed—understanding their fears, anxieties and concerns about their visual welfare in the eye examination and its outcome
1.2.1	• Ability to take a structured, efficient, accurate history and symptoms from patients with a range of ophthalmic problems and needs
1.2.2	• Ability to produce comprehensive, legible and organised record keeping with appropriate detail and grading
1.3.2	• Ability to interpret and respond appropriately to patient records and other relevant information

of character' to cover different aspects of their interaction with the student e.g., SPs can be trained to present with symptoms of headaches or floaters. Evidence demonstrates that students value feedback provided by SPs;[4,17,18,] however, they are underused in the late stages of optometric education, with only one study reporting their use.[4]

As with all health-care professions, it is crucial for optometrists to relay information to patients in an effective, empathetic manner. For this to happen seamlessly, good communication is key. This study aims to evaluate whether unannounced SPs can be used as an additional resource to enhance patient-centred feedback on the communication skills of students in undergraduate optometry education.

Methods

Prior to commencing their final year, optometry students are informed they will be performing eye examinations on members of the public whilst being observed by a VCT. During the 2018/19 academic year, 32 of these examinations involved SPs. The incognito SP approach was adopted to minimise the Hawthorne effect.[19] This study was approved by City, University of London Optometry Proportionate Review Ethics Committee and adhered to the tenets of the Declaration of Helsinki.[20]

The purpose of this pilot was to evaluate if the unannounced SPs could enhance the feedback provided to the students who examine the SPs and to synthesise this information to indicate the worth of this activity.[21,22] The naturalistic inquiry approach to evaluation of Lincoln and Guba was an appropriate methodology because many characteristics of this approach were well suited to this study. The natural setting was important because it was a patient clinic and was therefore as near to a real patient situation as possible. It is a qualitative approach which takes account of the interaction between SP and student and supports purposive sampling to ensure the correct subjects can be involved.

There is a focus on case study reporting which suited this study being centred on one clinic, allowing those reading the paper to assess if this approach is transferable to a similar setting. The trustworthiness of the study can be assessed through the activities of the research team related to independent checking and confirmation of the themes arising from the data, the audit trail the team kept of this, and their reflections on the final themes.

Participants

Students

At the start of the 2018/2019 academic year, final-year students were advised that a novel method of providing feedback was being piloted. All 112 students received a presentation explaining the study and were invited to participate. Students were informed that, because of student numbers, not all would examine an SP but those who did would be unaware they were examining an SP, nor be informed they examined an SP during the study.

Steps were taken in an effort to ensure SPs remained undetected. All SP visits were in the second half of the first semester, providing at least one month between recruitment and the start of data collection. Seventy-five students (67%) consented to examine an unannounced SP during primary care clinics, and 32 were randomly selected to examine one of the two SPs, resulting in 32 SP encounters.

Upon completion of data collection, to ensure equity for all students in terms of gaining additional feedback, the full cohort was given a formal presentation of emerging themes and specific anonymised feedback on their communication provided by SPs and VCTs. The presentation was prior to commencement of the second semester, encouraging students to incorporate this feedback into upcoming patient episodes. At year end, the full cohort was invited to participate in a structured focus group to discuss their views on this method of providing feedback on communication. Detailed analysis of the focus group findings will be reported separately.

Standardised patients

The optometry department holds a log of SPs, all professional actors, frequently used for postgraduate optometry education, training and assessment. SPs were selected to match two different pre-designed case scenarios (patients of different ages with different symptoms and clinical features). Both actors had extensive experience reporting on different aspects of communication and basic knowledge of eye care. Intensive one-to-one training on all aspects of an eye examination was provided to ensure the actors felt confident to report on eye examination content.

Both actors were familiarised with equipment used within optometric practice and observed and received eye examinations from the researchers. The SPs were trained to record details of each clinical encounter on a checklist and comment on the communication of each student in a free-text box. The importance of giving accurate, consistent responses at every visit was repeatedly emphasised. Both actors signed consent forms and confidentiality agreements.

Visiting clinical tutors

Ten VCTs consented to participate and were advised their feedback on communication of students would be compared to that provided by SPs with the aim of identifying any differences in quality, quantity and focus of feedback provided. All VCTs were practising optometrists trained to provide consistent feedback (both on clinical techniques and soft skills) to students. VCTs were instructed not to inform the student if they recognised that the student was examining an SP.

Case scenarios and checklists

SP profiles were chosen to investigate the typical symptoms, history, clinical investigation and management of patients routinely encountered in primary eye-care practice. Based on the SP profiles selected, a case scenario was developed for each.

The VCTs and SPs provided feedback on all aspects of the eye examination using a pre-designed electronic form (VCTs) and paper-based checklist (SPs). Both included a free text box to allow reporting on communication skills of students. For this paper, only the data gathered from the free-text boxes on communication skills completed by both the SPs and VCTs is reported.

Logistics and quality control

All eye examinations took place at the university eye clinic. A researcher (RS) allocated an SP to each randomly selected consenting student. Each SP was examined by two students on each study day. Visits took place on eight days over a nine-week period.

The SP presented as a 'new' patient and each eye examination proceeded as with a 'real' patient i.e., the student conducting a standard eye examination and a VCT observing and providing individualised written feedback. Only the clinical lead and receptionist were aware that the patient was an SP. They were informed that students should never be made aware that they were examining an SP. VCTs had been advised not to inform the student they are examining an SP should the VCT recognise the SP. After the eye examination, the SP completed the checklist. The individualised feedback relating to communication provided by the VCT was extracted and compared to the SP's free-text feedback.

SPs were monitored for quality control after every 10 visits, as is normal practice.[9,23] RS reviewed the VCT feedback and SP checklists ensuring they were complete and included individualised free-text feedback on the students' communication. Where necessary, VCTs and SPs were reminded to complete the free-text communication section. After the first 10 eye examinations, RS and IC independently reviewed the initial 20 sets of feedback (10 from SPs and 10 from VCTs) and identified six broad communication themes that attracted SP and VCT comments. To enhance consistency in the feedback provided, SPs and VCTs were asked to consider these six themes when commenting on students' communication: introduction, professionalism, rapport, language, body language and addressing the reason for visit.

Data analysis

Feedback by SPs on 32 students' communication skills from 32 eye examinations was compared to feedback provided by 10 VCTs on the same 32 examinations. Feedback provided on the six communication themes was allocated by RS into one of three categories: no comments, positive feedback on areas where the VCT and SP felt the student had performed well, and feedback with recommendations for the student for future examinations. All feedback was independently analysed and categorised by DE (not involved in any element of SP training or data collection). Any discrepancies in categorisation by DE and RS were discussed and resolved.

Quantitative analysis tested for any significant differences between SPs and VCTs in the proportion of the total number of comments for each group (SPs and VCTs) given in feedback for each theme (chi-squared testing with Yates' correction). The quality and depth of feedback by SPs on communication was compared qualitatively to feedback from VCTs by three clinicians (RS, IC and DE) experienced in providing VCT training and in teaching communication skills to final-year undergraduate optometry students.

Results

SPs gave much more feedback than VCTs for the (a) total number of comments for each theme and (b) quality and depth of these comments. Differences between SPs and VCTs regarding whether feedback was provided for each theme listed in Table 2 were statistically significant (chi-squared with Yates' correction, $p = 0.0000$) with SPs generally providing more detailed feedback. The quality and depth of feedback on each theme was higher from SPs than VCTs, as illustrated in Table 3 where typical examples of feedback are presented.

Student response to SP feedback

Following the formal presentation to the entire student cohort, approximately 25% spontaneously approached the presenter reporting that the feedback from SPs was most valuable and requesting that SPs should continue to be used during final-year clinics. The key finding from the focus group was that students reported that, whilst they immensely valued the feedback from VCTs on their techniques and clinical skills, SPs commented on elements of communication (e.g., rapport and body language) that VCTs may not have picked up on.

Table 2. Differences in levels of feedback provided by standardised patients and visiting clinical tutors for six communication themes. Data from 32 eye examinations are presented.

	Standardised Patient			Visiting Clinical Tutor		
Communication (n = 32)	No Comment % (n)	Commented Positively % (n)	Commented with recommendations % (n)	No Comment % (n)	Commented Positively % (n)	Commented with recommendations % (n)
Introductions	47% (15)	50% (16)	3% (1)	100% (32)	0%	0%
Professionalism*	3% (1)	88% (30)	9% (3)	59% (19)	38% (12)	3% (1)
Rapport	6% (2)	72% (23)	22% (7)	72% (23)	16% (5)	13% (4)
Language*	26% (9)	66% (23)	9% (3)	78% (25)	13% (3)	9% (4)
Body Language*	40% (14)	51% (18)	9% (3)	94% (30)	6% (2)	0%
Listening to and addressing reason for visit*	20% (7)	57% (20)	23% (8)	84% (27)	3% (1)	13% (4)

*The percentages quoted are based on all feedback received from 32 examinations. Some SPs gave both positive comments and comments with recommendations for Professionalism, Language, Body Language and Listening to and addressing the reason for visit. As a result, the total number of 'No comment', 'Commented positively' and 'Commented with recommendations' responses exceeds 32 for these four themes.

Table 3. Typical examples of feedback provided by standardised patients (SPs) and visiting clinical tutors (VCTs) for each communication theme, illustrating the greater quality and depth of feedback given by SPs.

	SP	VCT
Student Introduction	*'You introduced yourself properly in the room once we were sat down, you seemed more comfortable there rather than walking in from reception.' S22*	*No Comments*
Professionalism	*'Professional and polite. Another strength—advised me "I am going to make notes on the computer as she turned to do this". Regularly checked in with me if I was ok.' S13*	*'Good communication'* *'Slow down a little. Fast doesn't always mean good. Take time to do tests a little more thoroughly' S1*
	'I liked the way you used your light to pinpoint a spot on the ceiling for me to look at while you were examining my eye.' S20	*'Don't keep saying is it making a difference?' S12*
	'I was aware that you were chewing gum throughout the appointment which I did not feel was professional.' S25	
Rapport	*'Student was also pleasant and showed interest in me as a person and made me feel at ease. I felt confident in their work and approach'. S8*	*'Very friendly rapport but also took control of the conversation when needed whilst being professional.' S3*
	'At no point did it feel that she lost interest and went into autopilot. Always present and engaged.' S28	*'Try to build more of a rapport with the patient.' S12*
	'I would have liked to chatted more—be asked more about my job or more information about my hobbies. It just makes it more personable but that's a tiny improvement on an otherwise good consultation.' S14	
Language	*'Language was good, fully accessible and explained where required.' S18*	*'Great explanations of tests carried out through examination.' S23*
	"Your language was fine overall although you used some medical jargon at times 'AMD and Ocular.' S28	*'I like how you explained presbyopia to the patient and how well you addressed her issue at the end of the sight test with regards to reading.' S31*
	"The candidate used language that was easy to understand however I noticed some technical jargon ("I am going to check the anterior part of the eye) although she did go on to explain this was the surface of the eye. She also mentioned 'ocular health'. S9	*'Think about the language you use with patient e.g. when explaining Ophthalmoscopy.' S1*
Body Language	*'Seemed genuinely empathetic.' S4*	*'Good body language.' S20*
	'Body language was good and appropriate warning before entering personal space though the ophthalmoscope was an eye brow to eye brow exercise and quite long and tiring.' S11	
	'Body language was good in terms of eye contact but perhaps could have displayed a greater level of engagement between tasks and seemed a little distant at times.' S15	
Addressing the patient's reason for visit	*'Everything was thoroughly explained and left feeling reassured about my eyes.' S7*	*'Try and incorporate the patient's reason for visit and occupation/lifestyle into your advice and recommendations.' S2*
	'You listened to my reasons for being there and at the end you reaffirmed what was/was not needed and explained this clearly. You explained everything very well in a natural, relaxed friendly professional manner.' S22	*'Have an interactive discussion (whilst informing the patient) about whether spectacles would be helpful for near vision. Make a joint decision about what to do in terms of making up spectacles and that the patient clearly understands her choices.' S29*
	'I suppose we did not specifically go back to my concerns at the end though my prescription was changed and therefore addressed concerns but would have been good to come back to this.' S13	

Discussion

This pilot study shows that, overall, unannounced SPs provided more detailed feedback to students in terms of both the quantity (Table 2) and quality (Table 3) of comments relating to the communication skills of students when compared to VCTs. Specifically, no VCTs commented on whether students introduced themselves or asked the SP how they would like to be addressed. One possible explanation is that VCTs are not present when the student first meets their patient, the point at which the student is most likely to introduce themselves and ask the SP how they would prefer to be addressed. Interestingly, SPs noted that students often failed to ask how the SP preferred to be addressed.

This trend for VCTs to make many fewer comments (positive or negative) on aspects of communication was repeated for the remaining themes (Table 3). For any budding optometrist 'professionalism' is an essential trait, yet the difference between positive comments from SPs and VCTs was 50% (SPs 88%, VCTs 38%). Establishing rapport is a desirable element of any eye examination, and the failure of 72% of VCTs to make any comment on this theme was notable.

Rapport was one of the two themes that attracted most 'comments with recommendations'; SPs frequently noted that students could have conversed more with their patient to build rapport. For the use of appropriate language theme, VCTs failed to comment in 78% of cases, while SPs feedback to the 9% (three students) who attracted 'comments with recommendations' was to avoid using medical terms which a 'real' patient may not understand.

Body language attracted the second lowest number of comments from both SPs and VCTs, with VCTs only commenting on two (6%) students, both positively. SPs offered more feedback and more constructive feedback on this theme. The important theme of 'addressing patient's reason for visit' attracted the greatest number of 'comments with recommendations'. These were more likely to be raised by SPs (eight cases) than VCTs (four cases).

VCTs do not necessarily comment on all aspects of communication for each student but rather elements that stood out, positively or 'with recommendations', during the encounter. VCTs are practising clinical practitioners, so it is likely their focus is more on clinical aspects of the examination. Taking the theme of 'professionalism', for example, one view is that because the SP is the patient, they are able to comment more readily on this aspect of communication from a practitioner/patient perspective whilst the VCT is assessing the student from a practitioner/practitioner perspective.

The present results were reported to VCTs who participated (and their peers) highlighting how, based on the study outcomes, their communication skills feedback to students could be enhanced. This advice is now part of the annual training provided to VCTs before the commencement of final-year optometry clinics.

There is marked variation in how communication is taught and assessed in different health-care professions. Methods used include discussions, observations and teaching through lectures and presentations. Several studies have researched the use of unannounced SPs for assessment purposes, but only Elman et al.[24] investigated the effectiveness of unannounced SPs in the clinical setting as a teaching intervention for medical students. They found unannounced SPs to have a dramatic beneficial effect on the subsequent performance of students following feedback from SPs and this potentially powerful intervention could be applied to a range of clinical issues.[24]

There is little published research on the use of SPs in optometry training. The only paper reporting a similar approach to the current study used three actors to play the role of patients presenting for eye examinations with five common clinical scenarios.[4] That study focused on the role patients can play in developing interpersonal skills of optometry students. Interestingly, they found that SP feedback was not a robust measure of student performance, with actors reluctant to give poor marks because of the possible implications of low marks on the progress of students.

The authors note that the above limitation could be overcome by using SPs trained to provide reliable feedback. This observation is consistent with the present study where trained SPs showed no reticence in giving comments with recommendations (25 cases across six themes) compared with VCTs (13 cases in total).

An alternative approach to using SPs to provide feedback on clinical encounters is obtaining feedback via a patient-centred questionnaire and this topic was the subject of a recent systematic review.[25] However, as with SP optometry training, using patient feedback questionnaires in optometry training has received little attention. A recent Australian study used this approach and concluded that patient feedback enhanced the development of interpersonal skills, additionally making patients feel valued in the final-year teaching clinic environment.[26] This raises the possibility of using a combination of patient and SP feedback to develop skill of optometry students in the crucial area of communication with their patients.

Feedback from students following the formal presentation and during the focus group accords with similar research in other health-care professions; in these studies, students trained by SPs have performed as well as or better than students trained by faculty teachers in, for example, tests of communication skills.[27] Six months post-training, students trained using SPs showed better skills compared with students trained by more traditional teaching methods comprising lectures and small-group discussions.[28]

The SPs in the present study played patients routinely encountered in optometric practice. However, SPs can be trained for educational purposes to ensure that less commonly occurring, but important problem areas are covered during training whilst in a non-threatening environment. SPs can be incorporated into different stages of the degree programme, making use of their ability to give immediate and specific feedback on a student encounter. This is one of the biggest advantages of using SPs compared with real patients.[29] Additionally, SP interactions help prepare students for real patient interactions, particularly regarding communication skills and self-confidence, and in giving constructive feedback on students' communication skills.[30]

This study has strengths and limitations. Strengths include the formal, rigorous SP training and quality control, involvement of 32 students conducting SP eye examinations, and the extensive experience of the authors of SP research in optometry. Limitations include selection bias, introduced because 33% of the student cohort did not consent to examine an unannounced SP. This selection bias could result in a higher standard of communication skills

being reported than that typical of the final-year student cohort as a whole. Selection bias is a problem common to all SP research and was reported in previous research by the authors.[13–15] It is only likely to be a major problem if a high proportion of invited practitioners decline to participate, and the 67% participation rate in the present study is similar to previous studies in this area where 53% and 88% of invited practitioners agreed to participate.[31,32]

Another source of potential bias stemmed from SPs being aware that their feedback on every examination would be assessed by the researchers, while VCTs were not forewarned which patient(s) they would be supervising was an SP(s). However, the 10 participating VCTs were informed at recruitment that they would be examining an SP(s) at some point, that their feedback on the SP(s) examination they supervised would be assessed by the researchers, and VCTs were fully aware of the study aims.

Additionally, there was a risk that VCTs would, by chance, on different days supervise two or more students examining the same SP. Although 10 VCTs worked on the different study days, on three occasions VCTs observed different students performing an eye examination on the same SP. These VCTs will have recognised the SP and may have paid particular attention to the feedback provided, increasing the number and quality of comments provided by the VCT on these three occasions, despite which the overall feedback from the SPs was more detailed in terms of quantity and quality.

Due to clinic logistics, a student who performed the eye examination on an SP may have by chance encountered that SP when they attended for an eye examination with another student. Furthermore, the low number of SPs could be a source of bias because the feedback data obtained are not independent. This limitation was inherent to the study design given the limited number of SPs that could be employed and trained in this pilot study. Recruiting a greater number of SPs in future studies should reduce the effects of these limitations.

A general shortcoming of using SPs is the cost of training and their use in case presentation. The investment required in training SPs to produce high-quality simulations can be high and using SPs in final-year clinics reduces clinic income derived from 'real' patients. These costs could be reduced if larger numbers of SPs were regularly being employed, as training costs would be lower and timetabling of the attendance of actors would be more efficient and cost-effective. A further limitation of this pilot study stems from deficiencies in the qualitative methodology, e.g., the possibility of bias being introduced because data extraction from the completed feedback and subsequent thematic analysis was carried out by members of the research team who are also authors on this paper.

Conclusion

Unannounced SP encounters provided enhanced feedback to final-year undergraduate optometry students in this study. SPs gave more feedback (both in quality and quantity) on communication with patients by students than VCTs. Students greatly valued the feedback VCTs provided but SPs provided additional feedback on elements of communication skills (e.g., rapport and body language). The benefits of using SPs in undergraduate optometry training must be considered alongside the costs of training and employing actors.

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