



Medical Education

The impact of clinical visits on communication skills training

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ABSTRACT

Objective: The aim of the study is to evaluate a communication skills training program, and to investigate the relationship between communication skills and clinical visits.

Methods: This descriptive study was conducted at Hacettepe University Faculty of Medicine. 216 of the students (48.4%) took part in the study. They are evaluated at three steps of the program. Additionally, qualitative data were collected by interviewing with students and standardized patients.

Results: A paired *t*-test showed a significant difference between students' mean pretest scores (8.58 ± 1.69) and posttest scores (11.26 ± 1.74) ($p < 0.01$). There was a significant difference between the progress test scores according to the site of visitation ($p < 0.01$), but not between the posttest scores. The mean progress test scores of the students who visited the outpatient clinics (10.61 ± 1.41 for group 2, 10.80 ± 1.34 for group 4) were higher than those visiting the health centers (9.68 ± 1.56 for group 1, 10.12 ± 1.38 for group 3).

Conclusions: Our study showed that the program was effective in achieving communication skills. Students can be better trained for communication skills while practicing in both skills laboratories and real settings.

Practical implications: The possible variations in the educational environments and the staff should be taken into account when planning the program.

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1. Introduction

One of the clinical skills necessary in the professional development of medical students is the ability to create a positive doctor–patient relationship. This requires both effective communication and interpersonal skills [1]. Communication is essential to almost all aspects of healthcare, from history taking to providing information to the patient. Improving doctor–patient communication produces changes in several areas: increased patient satisfaction, increased cooperation from patients, shorter treatment times, shorter hospital stays, fewer requests for painkillers and fewer malpractice suits—all of this with no increase in time spent with patients. For these reasons, healthcare organizations have recommended that communication skills training be an integral part of any medical curriculum [2].

Communication skills do not necessarily improve with time and experience. Experience may be simply an excellent reinforcer of bad habits: despite obvious deficiencies of senior doctors in consulting

technique that are counterproductive to even basic doctor–patient communication, junior doctors and medical students mimicking their role-models use the same methods over and over again. Communication skills need to be taught with the same rigour as other core clinical skills, such as physical examination [3]. Improving communication skills requires an organized educational program; behavioral change cannot be achieved solely by studying written material [4]. A variety of methods are used in communication skills training—role playing, video recordings, video films, real patients, and standardized patients (SPs) [5]. The use of SPs in the clinical education of medical professionals has recently grown in recognition and application [6,7]. Designing standardized patient encounters for communication skills training facilitate the integration of skills such as taking history, negotiating the treatment plan, patient training and team working. Although standardized patient encounters are as close to as possible to actual settings, they are parts of an unreal world. Combining more methods of teaching communication skills, educational programs should also include activities such as experiencing with real patients in real settings. Medical students can synthesize their experiences with standardized patients and their observations in clinical settings. The majority of medical curricula include formal teaching of communication skills along with practical sessions in real-life settings [8].

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Meanwhile, there is a threat of unstructured training in clinical settings that cannot be easily controlled. Many medical schools have developed courses focusing on a variety of content areas that include communication skills, ethics, arts and literature, and the history of medicine. But there is still a disconnection between formal curricula and activities and graduates' demonstrated attitudes and skills. This has been reported to be effect of "hidden curriculum" that exists in medical schools [9]. In different clinical settings, expectations from medical students may not be standardized. The students may experience a wide variety of doctor–patient relationships. The variations between different clinical settings are important, and their outcomes should be investigated.

The purpose of medical education is to transmit the knowledge, impart the skills, and inculcate the values of the profession in an appropriately balanced and integrated manner [10]. To achieve this goal at Hacettepe University, we designed and implemented the 'Good Medical Practice' program in 2004. It was the first structured program in Turkey and became a model for other medical schools. Communication skills training, the main component of the program, is based on standardized patient encounters (SPEs), and enriched with clinical visits. Using the ongoing communication skills program, we designed a study to investigate whether the timing of SPEs and the site of clinical visitations have an impact on the achievement of communication skills. We also asked the students and SPs their perceptions of Section 2.1.

The questions to be answered in this study were:

- Do SPEs prior to clinical visits have an impact on the achievement of communication skills?
- Does the site of visitation have an impact on the achievement of communication skills?
- How do students and SPs perceive the impact of SPEs and clinical visits on the achievement of communication skills?

2. Methods

2.1. Communication skills training

Our study was conducted in an ongoing program on medical professionalism titled as "Good Medical Practice". It is a longitudinal program in the first 3 years (preclinical years) of 6-year medical education. The program uses rotating small groups experiencing the sessions on different occasions among the year. The sections of the program are communication skills training, clinical visits, clinical skills training, medical humanities, ethics and professionalism, and clinical decision-making.

The section of communication skills training consists of five subsequent sessions (Fig. 1). In the first 4-h session, students discuss the general principles of the medical encounter. In the second session each student has a 10 min encounter with a standardized patient. All encounters are recorded and archived digitally. In the 4 h debriefing session, first, the videotaped student reflects after watching the recordings; then, another student and the tutor give feedback using the SPE evaluation form (Fig. 2). Students have the

second SPE in the fourth session. The last session is the debriefing session for the second encounters. Meanwhile, students have the sessions for clinical visits on different occasions. Students are exposed to clinical sites and patients in the very early moments of their medical education. They visit the health centers and outpatient clinics of internal medicine. Each student accompanies a different doctor. The outpatient clinics are part of the medical school and the doctors are residents or faculty members. The doctors working in the health centers are practitioners and have no educational responsibilities. The students do not participate actively but just observe after getting the patient's consent. After each visit—half-day session, the students prepare reports on their experiences and the patient encounters.

As a component of formative assessment, the students are evaluated according to their performances in SPE, and their reports of clinical visits. They have an objective structured clinical examination (OSCE) as the summative assessment at the end of academic year. Six different skills are evaluated in the OSCE including communication skills. At the station of communication skills, students have 5 min to take history from a SP; they are assessed by an observer using the SPE evaluation form.

2.1.1. Research design

This was a descriptive study where both quantitative and qualitative methods were used. The quantitative data were collected from the evaluation of video recordings.

Qualitative part of the study was organized by implementing two complementary techniques: (i) focus group meetings [11] and (ii) interviews [12]. In the study, one focus group meeting including 5 students was conducted, and 3 standardized patients were interviewed.

Focus group was preferred and used for its merits which include facilitating access to different kinds of information in a short time period, flexibility in terms of discussing some unknown or unexpected facts and giving an idea about extreme points. An ideal focus group comprises 7–11 participants, but 5 participants comprised in our case. It took 2/3 h and the tape recorder was used during the meeting. Five participants in the meeting were volunteers, and informed consent was received.

For interview, the guideline was developed as being kept fairly brief, and focused on our research objectives (Fig. 3). Every interview has its own set amount of time, in our case; a session was not more than 1 h. At the beginning of the interview, interviewers introduced themselves and the aim of the research was explained. During the session, tape recorder was used to document the interview and then the text was transcribed word by word. The transcribed text became the data that were analyzed. Analysis involved some degree of abstraction from the detailed opinion presented, so that key factors and events can be highlighted. The privacy of the participants was protected.

2.1.2. Subjects

In 2005, there were a total of 446 students in years II and III at Hacettepe University Faculty of Medicine. The content of Section

GROUPS		SESSIONS									
Group 1	Training Session	SPE 1	Debriefing 1	Health Center	SPE 2	Debriefing 2	Outpatient Clinic				OSCE
Group 2	Training Session	SPE 1	Debriefing 1	Outpatient Clinic	SPE 2	Debriefing 2	Health Center				OSCE
Group 3	Training Session			Health Center	SPE 1	Debriefing 1	Outpatient Clinic	SPE 2	Debriefing 2		OSCE
Group 4	Training Session			Outpatient Clinic	SPE 1	Debriefing 1	Health Center	SPE 2	Debriefing 2		OSCE

Fig. 1. The steps of the section of communication skills training included in the study.

EVALUATION FORM			
Communicating with a patient			
Evaluation criteria P: Step performed efficiently and precisely in the proper sequence (1) S: Step performed correctly in the proper sequence but the transition between steps not efficient (0.5) N: Step omitted (0)			
STEPS	OBSERVATION		
1. Introduced self	P	N	
2. Began by using open-ended questions	P	S	N
3. Made good eye contact	P	S	N
4. Used posture that showed care and concern	P	S	N
5. Asked simple and clear questions	P	S	N
6. Explained using words that were easy for patient to understand	P	S	N
7. Avoided asking complex and directing questions	P	S	N
8. Allowed patient to express self	P	S	N
9. Did not interrupt the interview while not taking	P	S	N
10. Did not interrupt patient to tell	P	S	N
11. Elicited patient's concerns and expectations about illness	P	S	N
12. Summarized the current history of the patient	P	S	N
13. Gave appropriate information	P	N	

Fig. 2. Standardized patient encounter evaluation form.

2.1 were identical for both years as it was the initial year of implementation. At the beginning of the academic year, students were divided into 24 groups of 11–15 by stratified random assignment. Eight groups were randomly chosen from each year, 16 groups in total.

Four of the eight groups visited health centers; four visited outpatient clinics. For each site, two groups had the visit before the SPEs and two did not. There were 216 students in the study, 48.4% of the total. There were some technical problems in the video recording, so 19 of the students were not included in the analysis of progress test.

2.1.3. Instruments

The SPE evaluation form used to assess communication skills in medical encounters was developed by the program coordinators. The criteria on the evaluation form were derived from Calgary-Cambridge Observation Guide. The guide is based on the five basic tasks that physicians and the patients routinely attempt to accomplish in everyday clinical practice: initiating the session, gathering information, building the relationship, explanation and planning, and closing the session [13]. The criteria developed according to the basic tasks were evaluated with a three-level scoring scale. Students were given no point if a step was omitted, performed incorrectly, or performed out of sequence; 0.5 point if a step was performed correctly in the proper sequence but the transition between steps was not efficient; and 1 point if a step was efficiently and precisely performed in the proper sequence. A

Pearson correlation coefficient indicated that interrater reliability was 0.64 ($p < 0.05$); it was calculated in a previous study conducted by the same group of authors.

The questionnaire used during the qualitative data-gathering process had seven questions with additional probe questions for each (Fig. 3).

2.1.4. Data-gathering process

The video recordings of first SPEs were assessed by two of the authors (ST and SU) using the SPE evaluation forms, and considered as the pretest scores. The evaluation of the second SPE in the same way formed the progress test scores. The scores of the communication skills station in the OSCE were included as the posttest scores.

2.1.5. Data analysis

We used two-way analysis of variance (ANOVA) to evaluate the impact of the timing of SPEs and the site of visitations on progress and posttest scores. We used analysis of covariance (ANCOVA) to evaluate how progress and posttest scores differed from pretest scores for different sites of visitations. We used a paired *t*-test to analyze the difference between pretest and posttest scores. Thematic coding was used to analyze the content of the qualitative data.

3. Results

A paired *t*-test showed a significant difference between students' mean pretest scores (8.58 ± 1.69) and posttest scores

Questionnaire for focus group interview

1. Evaluate standardized patient encounters regarding the continuum of the program.
 - Environment
 - Schedule
 - Student
 - Other participants
2. Evaluate standardized patient encounters regarding the achievement of communication skills.
3. Each student has two encounters. Evaluate your performance in subsequent sessions.
4. Evaluate the clinical visits regarding the organisation.
 - Environment
 - Schedule
 - Other participants
5. Evaluate the impact of clinical visits on the achievement of communication skills.
 - General
 - Health centers
 - Outpatient clinics
6. Your suggestions for the development of the program in achieving communication skills.
 - Standardized patient encounters
 - Clinical visits
7. Other suggestions for the program.

Fig. 3. Questionnaire for the focus group interview.

(11.26 ± 1.74) ($p < 0.01$). The posttest scores were analyzed using a two way ANOVA regarding the timing of the SPEs and the site of visitation but no interaction ($F: 0.18, p: 0.675$) and difference according to the site of visitation ($F: 0.71, p: 0.402$) was found (Table 1).

However there was a significant difference between the progress test scores according to the site of visitation ($F: 15.63, p < 0.01$) (Table 1); the mean progress test scores of the students who visited the outpatient clinics (10.61 ± 1.41 for group 2,

10.80 ± 1.34 for group 4) were higher than those visiting the health centers (9.68 ± 1.56 for group 1, 10.12 ± 1.38 for group 3) (Table 2).

With pretest scores controlled, the effect of the site of visitation was analyzed using ANCOVA. There was a significant difference between progress test scores ($F: 9.96, p: 0.002$) but not between the posttest scores ($F: 0.55, p: 0.462$) (Table 3).

All the students expressed their positive impressions of SPEs in communication skills training:

Table 1

The variance analysis of the scores at progress test and posttest, related to the timing of SPEs and the site of visitation.

Source of the variance	Sum of squares	Degree of freedom	Mean square	F	p
Progress test					
SPEs prior to clinical visits	4.62	1	4.62	2.27	0.134
Site of visitation	31.78	1	31.78	15.63	0.000
CV × SP ^a	0.77	1	0.77	0.38	0.540
Error	392.32	193	2.03		
Total	430.67	196			
Posttest					
SPEs prior to clinical visits	0.41	1	0.41	0.10	0.750
Site of visitation	2.83	1	2.83	0.71	0.402
CV × SP ^a	0.71	1	0.71	0.18	0.675
Error	775.37	193	4.02		
Total	779.19	196			

^a CV × SP = interaction between the site of the visit (CV) × the standardized patient encounter prior to visit (SP).

Table 2
Progress test and posttest scores grouped by the timing of SPEs and the site of visitations.

	Pretest SPE1			Progress test SPE2			Posttest OSCE		
	n	Mean	S.D.	n	Mean	S.D.	n	Mean	S.D.
Group1 (health center)	51	8.59	1.71	51	9.68	1.56	51	11.26	2.12
Group 2 (internal medicine)	48	8.57	1.63	48	10.61	1.41	48	11.37	2.24
Group 3 (health center)	–	–	–	46	10.12	1.38	46	11.04	2.19
Group 4 (internal medicine)	–	–	–	52	10.80	1.34	52	11.40	1.38
Total	–	–	–	197	10.31	1.48	197	11.27	1.99

S.D., standard deviation; n., number of students.

Table 3
Covariance analysis of progress test and posttest scores according to pretest scores.

Source of the variance	Sum of squares	Degree of freedom	Mean square	F	p
Progress test					
Pretest scores	27.99	1	27.99	19.46	0.000
Site of visitation	14.32	1	14.32	9.96	0.002
Error	126.54	88	1.44		
Total	167.42	90			
Posttest					
Pretest scores	22.98	1	22.98	8.37	0.005
Site of visitation	1.49	1	1.49	0.55	0.462
Error	241.66	88	2.75		
Total	265.76	90			

“... Maybe it was not so satisfactory, but at least, we got the idea of how to talk to patients.”

“We observed the doctor–patient interaction, we met the patient; those were all experiences. Anyway, we learned something.”

“After the encounters, we watched all our classmates’ recordings. We watched 10–14 recordings at each session, and generally this helped us.”

“We felt more confident. Observing the interview stays with me.”

“I think watching the recordings and the tutor’s feedback affected me.”

Two of the standardized patients expressed positive feelings about SPEs:

“They must have had an effect. I had two encounters with some students and in their second encounter; they behaved better. Their hands were trembling in the first encounter. They will change in time, they will learn.”

“They helped a lot. I guess, most of the students benefited from the encounters. If I had the chance to assess them, I would give 10 point – but not to all. That would be impossible; there are differences among them.”

Clinical visits were also well accepted by the students; ‘the most pleasurable’:

“... I enjoyed it a lot. It was wonderful. I wished I could have stayed there, with the doctors.”

But, some of the students did not agree with their friends visiting the same site:

“They did not let us stay in the room”

“... We benefited from the doctor’s experiences in communicating with the patient in the health center.”

There were similar differences at the other site. They felt clinical visits had a positive impact on their development of communication skills. Almost all of them agreed that clinical visits motivated their learning.

The students felt that experiencing SPEs, watching the recordings, and observing at clinical visits helped them to make a change in their skills:

“The experience of the first encounter made us observe more critically when we visited the real settings. The doctor did this, and did not do that. Watching the doctor and the patient motivated us. How the doctor dominated, how he asked the question.”

4. Discussion and conclusion

4.1. Discussion

The achievement of clinical communication skills can be enhanced significantly with focused teaching. The difference between the pretest and posttest scores showed the effectiveness of the program. Although the students had varying views about the clinical visits, they thought that the clinical visits had an impact on the achievement of communication skills, they enjoyed the visits, and the visits motivated them. In a number of studies, researchers described communication skills training programs reducing lecture-based activities, increasing students’ opportunities for SPEs, and communicating with real patients within the real settings. They also reported the effectiveness of the programs using both simulated/standardized and real patients [8,14–17].

The quantitative data showed that SPEs prior to clinical visits had no impact on the posttest scores. But the students’ impressions were somewhat different: “We learned how to adapt our questions to the situations”. Standardized patients also have thoughts similar to the students: “It changed according to the student and the situation but in general, the students did benefit from the visits.”

The critical result of this study was the significant difference between the progress test scores according to the sites of visitation ($p < 0.01$). The mean score of the students who visited the outpatient clinics was 10.61 ± 1.41 for group 2, 10.80 ± 1.34 for group 4 compared to 9.68 ± 1.56 for group1, 10.12 ± 1.38 for group 3 for health centers. The results were similar when pretest scores were controlled. That result can be explained by the lack of the doctors’ contribution to the training in the health centers. It was not their priority to train students so they might have ignored them while they were busy with their daily work.

There was no difference between the posttest scores for both groups. This is also important for the success of the entire program that all the students benefited equally at the end of the program.

4.2. Conclusion

The results showed that the program had an impact on achieving communication skills. The students felt their achievement of communication skills was effected by their experience with the SPEs, by getting feedback in debriefing sessions, and by their observations during the clinical visits. The difference between the progress test scores related to the site of visitation underlined the level of the contribution of teaching and non-teaching professionals.

Since the study was conducted in an ongoing program, the study has some limitations: (i) all the groups in the study did not have pretest, but selecting descriptive research design, we provided the control of standardized patient encounters that were used as the pretest. Such a control converted the limitations to the strengths of the study. (ii) Evaluations of the encounters were performed on the video recordings, not simultaneously. (iii) The impact of other components of the program, such as ethics, clinical skills, and medical humanities cannot be controlled. (iv) The students accompanied different physicians in the clinical visits, and the variations between those physicians cannot be determined.

4.3. Practical implications

The program has several strengths: the data can be gathered during routine training; evaluation takes place on more than one occasion, and all the students benefit from the entire program. The training environments and the staff taking part in the activities should be well evaluated before included in such a program.

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