ORIGINAL ARTICLE

Development of a Structured Communication and Counseling Skills Course for Pharmacy Students: A Simulation-based Approach

Eczacılık Fakültesi Öğrencilerine Yönelik İletişim ve Danışmanlık Becerileri Eğitim Programı Geliştirme Çalışması: Simülasyona Dayalı Bir Yaklaşım

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ABSTRACT

Objectives: We aimed to develop a structured communication and counseling education program to improve pharmacy students' skills. Then, we objectively assessed this program by using simulated patients. The program aims to improve pharmacy students' communication and counseling skills by using a patient-centered approach.

Materials and Methods: The study was conducted in three stages. First, a "Pharmacist-Patient Communication and Counseling Skills" education program was developed. Second, this program was implemented for pharmacy students. Third, the program was tested on volunteer students and evaluated for its effectiveness.

Results: The education program had a very large effect (Cohen's d_z: 6.074) on improving students' communication and counseling skills, especially their empathy skills.

Conclusion: The education program achieved its goals. After demonstrating the program's success, a course was added to the pharmacy curriculum, and a communication skills laboratory was established in the school.

Key words: Health communication, social skills, teaching methods, professional competence, problem-based learning

ÖZ

Amaç: Bu çalışma ile eczacılık öğrencilerinin iletişim ve danışmanlık becerilerini geliştirmeye yönelik yapılandırılmış bir eğitim programı geliştirmeyi amaçladık. Sonrasında programı objektif olarak standart hastalar kullanılarak değerlendirdik. Program, eczacılık öğrencilerinin iletişim ve danışmanlık becerilerini hasta odaklı bir yaklaşımı kullanarak geliştirmeyi hedeflemektedir.

Gereç ve Yöntemler: Çalışma üç aşamada yürütülmüştür. İlk önce "Eczacı-Hasta İletişim ve Danışmanlık Becerileri" eğitim programı geliştirilmiştir. İkinci aşamada, bu eğitim programı gönüllü eczacılık öğrencileri için uyarlanmıştır. Üçüncü aşamada, program gönüllü öğrenciler üzerinde denenmiş ve etkinliği değerlendirilmiştir.

Bulgular: Eğitim programının, öğrencilerin iletişim ve danışmanlık becerilerini, özellikle empati becerilerini geliştirmede çok büyük bir etkisi (Cohen d_z: 6,074) olduğu görülmüştür.

Sonuç: Eğitim programı hedeflerine ulaşmıştır. Programının başarısı kanıtlandıktan sonra, eczacılık lisans programına bir ders olarak eklenmiş ve okulda iletişim becerileri laboratuvarı kurulmuştur.

Anahtar kelimeler: Sağlık iletişimi, sosyal beceriler, öğretim yöntemleri, mesleki yeterlilik, probleme dayalı öğrenme

INTRODUCTION

The role of pharmacists has evolved over time. Today, pharmacists should be able to establish effective therapeutic relationships with patients.[1,2] When pharmacists are involved in patient care, patients have improved clinical outcomes and quality of life.[1,3-7] To provide optimal patient care and establish a good relationship with patients, pharmacists must be able to communicate effectively.[8,9] Communication skills can be improved through both practice and education.[2]

Training in patient communication skills has taken on a growing role in the pharmacy curriculum.[10,11] Pharmacy schools now regard communication as a core clinical skill rather than an optional curricular component.[12] Since the content of communication skills courses can vary from one culture to another, different guidelines can arise for what pharmacy students are expected to learn. That said, patient counseling is considered as a crucial component of virtually all pharmacy curriculums.[13] Nevertheless, cultural differences have led to inconsistent communication-based learning outcomes and teaching modalities.[14]

Communication courses in pharmacy schools have generally covered the following: (1) Key communication skills (active listening, empathy, and assertiveness); (2) counseling skills (initiating the interview, establishing trust, eliciting information, giving information and educating the patient, shared decision making/involving the patient, and verifying patient understanding); (3) ability to handle difficult situations and develop conflict management skills; (4) ability to communicate with diverse patients; and (5) ability to employ behavior modification strategies.[13,15] While prior studies have described the content and outcomes of courses, there remains a need to develop a structured education program that demonstrates the optimal order or combination of course content.[14]

With the increasing awareness of the value of communication skills in pharmacy practice, developing effective methods for teaching and assessing communication skills has become important for educators. The simulated patients (SPs) method is commonly used both as a teaching Tool and a standalone assessment technique.[16] Yet, even though SPs are used as an assessment method, there is little published research on the validity and reliability of standardized assessments of pharmacy student communication skills.[15]

Several theories have been proposed to explain why and how communication skills might be developed in pharmacy education. According to the structured training theory, communication skills can be developed by structured training.[14] Based on that theory, this study developed a structured "Pharmacist-Patient Communication and Counseling Skills Education Program (PPCCE)" to improve pharmacy students' skills. Further, the program was objectively assessed using SPs. This work evaluates the impact of the PPCCE on students, not the effect of SPs. We hypothesized that the students in this class would show improved communication and counseling skills.

MATERIALS AND METHODS

PPCCE development involved three major phases, following Eng et al.[17] model for developing and evaluating health communication programs. The study has three stages. First, the PPCCE was developed. Second, the PPCCE was implemented with pharmacy students. Third, the program was tested on volunteer students and its effectiveness evaluated.

Ethics statement

The Ankara University Ethics Committee on Non-clinical Research on Human Beings approved this study (date: 03.12.2015, number of decision: 328). Written informed consent was obtained from each participant.

Conceptualization and design

Content

For the content of PPCCE, topics were identified based on the literature.[18-24] In addition, ACPE guidelines were reviewed regarding pharmacist-patient communication and counseling.[25] Table 1 presents the goals, objectives, and content of the sessions.

PPCCE development also used Miller's pyramid of clinical competence.[26] The program focused on practical approaches and a learner-centered format. After each theoretical lesson, one practical session with SPs was added to the curriculum. Table 2 shows the content of the PPCCE and the sequence of actions. Five scenarios were written adapted from real life for the sessions with SPs (Table 3). The scenarios used in pre- and post-tests were the same.

Evaluation of the education program

Statistical analysis

A mixed method was used to evaluate the PPCCE. First, a quasi-experimental, pre- test and post-test design was executed. SPs were used as an assessment method for the pre- and post-tests. Additionally, SPs were used as a teaching method during the PPCCE. Before the PPCCE was implemented, the students interviewed with SPs as a baseline. After training, students interviewed with SPs to determine the improvement (Table 2). Each SP interview was rated by one rater (GG). To eliminate experimenter bias, all tapes were blinded in terms of whether they were pre- or post-test. A second method was employed in the form of a feedback form administered to students. The learning experience, which is a personal insight, was not assessed in the study based on the SP interviews. The form consisted of several statements based on a five-point Likert scale and open-ended questions. The instrument was developed from the literature.[15]

Students' tapes were assessed by the trainer (GG) using a modified version of the patient-centered communication tool (PaCT). Recent research has shown that the PaCT is a valid, reliable, and appropriate grading instrument for assessing pharmacy students' communication skills.[27] In addition, the PaCT focuses on the learning objectives the researchers had targeted, it directs the observer toward important skills, and it can be utilized for performance-improvement tracking.[28]

Adaptation to the Turkish language was conducted through a pilot study. Some PaCT items were modified to remove ambiguity and to fit the research design. Six health communication experts were asked for their opinions on the content of the PaCT based on specific evaluation criteria. The expert panel also reviewed the consultations with SPs by using the instrument and concluded that it was highly relevant to pharmacy-patient communication skills. On the basis of the expert panel's guidance, planning the visit agenda was deemed not suitable for pharmacist-patient encounters in Turkey due to a lack of sufficient time and a suitable backdrop to negotiate with patients before the consultation. Therefore, one item was omitted from the PaCT. The modified instrument has 22 items (skills) gathered under five tools: Tool A: Establish a connection (opening the session); Tool B: Explore and integrate the patient's perspective (asking question); Tool C: Demonstrate interest and empathy (acknowledge emotions, respond to emotions appropriately); Tool D: Collaborate and educate (shared decision making, plan, educate, and complete the visit); Tool E: Communicate with Finesse (verbal and non-verbal skills, effective questioning, organization, professionalism). The students could earn up to five points for each item. The modified instrument was tested on fifth-year students (n=15) to calculate inter-rater reliability. Using video recordings of the encounters, raters (n=2) assessed student performance using the modified instrument. Rating data were fully crossed (i.e., all raters evaluated all learners on all behaviors). Ratings were analyzed using generalizability theory.[29-31] We hypothesized that rating by one rater would be as reliable as rating by two raters.

As a result, the generalizability coefficient was found to be 0.76 for one rater and 0.789 for two raters. The coefficients were considered as acceptable.[32] Increasing the number of raters led to a very small increase in the G coefficient, and such an increase would not be practical in cases where it is difficult to find competent raters. Therefore, assessing the program by using the PaCT with one rater would produce reliable results.

Learning activities

To ensure uniform teaching, a detailed training protocol was written for each session. It contained the goals and objectives of each session, preparatory materials (student, trainer, and SP guides), and scenarios. Lectures were organized using active-learning techniques to engage students (e.g., group discussion, brainstorming, video-based skills demonstration, small group role-playing practice, interviews with SPs). Objectives and goals were set at the beginning of the lectures. The lectures then continued with interactive discussions. The PaCT was introduced and defined by reviewing the instrument; students were asked to give examples demonstrating such skills during an interview. Students made suggestions, and the trainer provided supporting insight. To provide individual learning experiences, each student privately completed a single-case SP encounter at the end of each session. In practical sessions, SPs were used as a teaching technique.

Interactive exercises, pharmacy-patient consultation scenarios for role-play, and appropriate readings were included as student guides. Trainers' guides were designed on the basis of facilitators' needs. The processes for both lectures and SP

Table 1. Objectives of the education program
Students will be able to:
Distinguish the different barriers of interpersonal communication between pharmacists, patients, and other health professionals
Use active listening skills; elicit the needs, requests, and capabilities of the patient; and provide information using effective non-verbal, explanatory, and questioning skills (reflection, picking up patient's cues, paraphrasing, summarizing, open, closed, and focused questioning, etc.)
Encourage the patient to express their own ideas, concerns, expectations, and feelings and accept the legitimacy of the patient's views and feelings
Adapt their own communication to the level of understanding and language of the patient, avoiding jargon
Show awareness of the patient's non-verbal communication (e.g., eye contact, gestures, facial expressions, and posture) and respond to them appropriately
Involve the patient in decision making and adapt the plan/intervention to patient's needs and capabilities
Organize a conversation from beginning to end with regard to structure
Display appropriate professionalism
Give information to the patient (oral and written) in a timely, comprehensive, and meaningful manner
Use education methods appropriate for the patient and give the appropriate amount of information
Verify the patient's understanding of new information provided and suggest changes to be initiated
Recognize difficult situations and communication challenges (e.g., crying, strong emotional feelings, interruptions, aggression, anger, anxiety, embarrassing or sensitive issues) and manage the challenging patient sensitively and constructively
Use adequate strategies to solve conflicts
Discuss with the patient for follow up interview
Promote adherence to appropriate therapy

practice, along with a chronological description of steps to be taken, were explained in detail. SP guides also included the written scenario, feedback rules for SPs, topics to be addressed during feedback, and objectives of the practice session.

Approach to grading
The three main grading criteria were the final examination (post-test interviews with SPs; 50%), class participation (10%), and students' efforts to apply the new skills (40%).

Implementation
All students enrolled in the PPCCE of the undergraduate pharmacy program at the Ankara University Faculty of Pharmacy in the first semester of 2016 were asked to participate. Of the 26 students, 5 declined to participate, leaving a total of 21 participants. The students were advised of the goals of the study and assured that the data would be kept confidential. Only students who did not consent to participate were excluded. The

Table 2. Description of the education program with the sequence of actions

Component		Content	Domain	Addressed tools in the PaCT	Duration
Session 1	Pretest	Simulated patient consultation interviews for all students, evaluated by one independent observer using an instrument, without feedback given	-	Whole PaCT	3 hrs/1 week
	Lecture 1 by the trainer	Description of effective communication skills, fundamental techniques for the process of key communication in everyday life, such as behaving assertively, showing empathy to others, listening actively, etc.	Cognitive affective "knows how"	C and E	4 hrs/2 weeks
	Interview 1 with SP	Role-play for one scenario by students with a SP. Feedback facilitated by trainer	Cognitive and affective psychomotor "shows how"	C and E	4 hrs/1 week
Session 2	Lecture 2 by the trainer	Description of effective pharmacist-patient communication dimensions and fundamental techniques for the process of pharmacist communication, such as avoiding the use of medical and pharmaceutical jargon, educating the patient, shared decision making with patient and responding to a patient's concerns, organizing the interview with regard to structure	Cognitive affective "knows how"	A and D	6 hrs/3 weeks
	Interview 2 with SP	Role-play for one scenario by students with a SP. Feedback facilitated by trainer	Cognitive and affective psychomotor "shows how"	A and D	4 hrs/1 week
Session 3	Lecture 3 by the trainer	Description of causes of conflict, expressing conflict management strategies, and steps in problem-solving, such as identifying all possible solutions, shared decision making, caring all parties to agreeing on an acceptable plan	Cognitive affective "knows how"	B	4 hrs/2 weeks
	Interview 3 with SP	Role-play for one scenario by students with a SP. Feedback facilitated by trainer	Cognitive and affective psychomotor "shows how"	B	4 hrs/1 week
Session 4	Lecture 4 by the trainer	Description of adherence, causes of non-adherence, and patient follow up strategies for a pharmacist, such as understanding the patient's reluctance to use medicine or willingness to change a behavior	Cognitive affective "knows how"	D	2 hrs/1 week
	Interview 4 with SP	Role-play for one scenario by students with a SP. Feedback facilitated by trainer	Cognitive and affective psychomotor "shows how"	D	4 hrs/1 week
	Post-test	Simulated patient consultation interviews for all students, evaluated by one independent observer using an instrument, without feedback given	-	Whole PaCT	3 hrs/1 week

PaCT: Patient-centered communication tool, SP: Simulated patient

class met once a week for 14 weeks for two hours of lectures, and three hours of SP practice. The PPCCE specifically targeted fifth-year students since, they had already met different types of patients during their internship and had sufficient knowledge of medicines, side effects, their proper doses, and so on. Targeting fifth-year students also allowed students to easily be involved in real-world pharmacy settings without forgetting their acquired skills.

Thirteen SPs participated in the study; they had prior experience in role-playing with the students. The SPs attended eight hours of training. They were paid 30₺ per hour during the training and when working with students. SPs were expected to practice their roles in the scenario in advance. To provide efficient learning, SPs also had to give the students constructive feedback after the consultations regarding their experiences as a patient.

The outcomes and what was expected of the students during the interviews were all described in advance. Advance notice about medications to be counseled helped students acquire the knowledge they would need during the consultation. This helped to reduce, students' anxieties so they could focus on their communication skills rather than the clinical content. Every student had five minutes to re-read the relevant information before interviewing the SPs.

RESULTS

Evaluation and assessment
Information was collected on the participants' age and gender. They ranged in age from 20 to 22 years and were mostly female (n=16, 76%).

Table 4 shows the mean scores on the tools and the total scores. An increase can be observed in the students' mean scores after the program's implementation. The baseline and outcome data were compared using paired-sample t-tests (Table 4).

Comparisons between pre- and post-test scores indicated that the students received significantly higher scores on all tools (p<0.001). Figure 1 shows the changes in the pre- and post-test scores.

Table 4 shows that the greatest improvements were in tool C (demonstrate interest and empathy). Meanwhile, tool E showed the least improvement (mean deviation: 2.23), with higher pretest scores (mean: 2.51) than on all other tools.

In addition to pre- and post-test scores, we calculated the effect sizes (ES) for both variables to estimate the relevance of possible effects of the program. We used the Cohen's d_z formula[33] as follows:

Cohen's d_z: t√n

The ES for communication and counseling skills was 6.074; in terms of Cohen's d_z, this should be considered as a very large effect. Combining the tests for significance, we may firmly conclude that the education program had an effect on the students' skill development.

The answers obtained from the feedback form supported the value of the PPCCE for improving students' communication skills. Eighteen of the 21 participants filled out the form (response rate: 86%). Most students enjoyed the PPCCE and
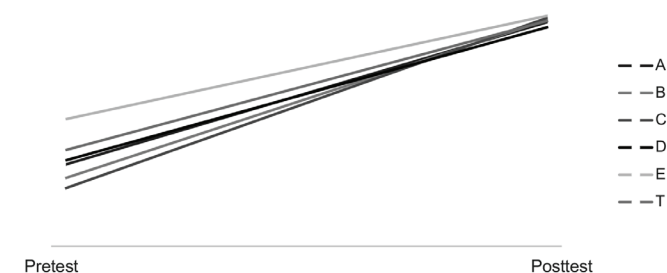

Figure 1. Changes in the pre- and post-test scores

Table 3. Content and objectives of the scenarios used in the education program		
Scenarios	**Content**	**Objectives**
Interview 1 with SP-scenario 1	A patient with type-2 diabetes who had to give himself insulin injections fears giving injections to himself. He requests that the pharmacists give him the insulin injection every day instead	Being assertive, using effective questions, displaying suitable body language, demonstrating empathy, and listening actively to the patient
Interview 2 with SP-scenario 2	A patient with osteoporosis comes to pharmacy. She had some concerns about the side effects of the drugs when hearing from the pharmacist	Creating rapport, integrating the patient's perspective, using effective questions, organizing the consultation, educating the patient, and completing the visit
Interview 3 with SP-scenario 3	An insistent patient wanting the pharmacist to persuade her daughter to use a food supplement although she does not want to	Recognizing the difficult situations and communication challenges and managing the challenging patient sensitively and constructively
Interview 4 with SP-scenario 4	The patient with osteoporosis who had come to the pharmacist a few weeks before (in scenario 2). She has some difficulties using the medication and decided to stop taking it	Promoting adherence to appropriate therapy. Involving the patient in decision making and adapting the plan/intervention to the patient's needs and capabilities

SP: Simulated patient

believed it improved their problem-solving skills (Table 5).[15] However, students also expressed their wish to have had more interviews during the PPCCE. Moreover, they felt that their fifth-year was too late to learn these skills and that the education program should be earlier in the curriculum.

Some SPs also commented on the education program during the laboratory practices. They said they were not used to seeing a pharmacist behave this way in real life. They expressed the view that pharmacists tended to be more interested in paperwork and that patients communicated more with technicians than with pharmacists. The SPs said they hoped this education program could help produce pharmacists who were well-educated and empathic.

DISCUSSION

The PPCCE had a very large effect on improving the communication and counseling skills of students. At the end of the course, development was seen in all five tools, though the most development was seen in tool C (interest and empathy).

When designing the PPCCE, the basic philosophy was determined on the basis of patient-centeredness. Mead and Bower[33,34] described patient-centeredness as "the physician tries to enter the patient's world, to see the illness through the patient's eyes". In this way, patients play a more active role in the treatment process, and respecting their needs is crucial. Hence, the main theme in all sessions was to understand and care for the patients' needs. The improvement in tool C could have resulted from the concept of patient-centeredness being adopted during the development of the PPCCE.

The most challenging part of the PPCCE was tool D (collaborate and educate). Students mentioned difficulties performing these skills, and they regarded the skills in tool D as complex. Figure 1 shows the low level of development revealed for tool D. Surprisingly, the students were not aware that providing a plan and contributing to patient adherence are among pharmacists' responsibility. This could have to do with Turkish pharmacists paying more attention to business issues and paperwork than to counseling patients. In a recent study, Turkish pharmacists

Table 4. Comparison of pharmacy students' scores on various tools of the modified version of PaCT at pretest and post-test (n=21)

Tools of PaCT	M (SD) (pre)	M (SD) (post)	MD (SD) (pre-post)	t-test*	p value
A (establish a connection)	1.57 (0.53)	4.63 (0.35)	3.06 (0.56)	24.9	‹0.001
B (explore and integrate patient's perspective)	1.29 (0.54)	4.69 (0.60)	3.40 (0.68)	4.1	‹0.001
C (demonstrate interest and empathy)	1.07 (0.24)	4.74 (0.41)	3.67 (0.43)	4.1	‹0.001
D (collaborate and educate)	1.66 (0.58)	4.52 (0.46)	2.86 (0.57)	23.0	‹0.001
E (communicate with Finesse)	2.51 (0.49)	4.74 (0.37)	2.23 (0.56)	18.3	‹0.001
T (total)	1.87 (0.41)	4.65 (0.35)	2.78 (0.46)	27.8	‹0.001

*For tool B and tool C, a Wilcoxon signed-rank test was performed. For tools A, C, D, E, and for total score a paired-sample t-test was conducted. PaCT: Patient-centered communication tool, M: Mean, SD: Standard deviation, MD: Mean deviation

Table 5. Students' answers obtained from the feedback form

Item	M (SD)
The SPs were the key component of the education program	4.7 (0.4)
I was happy to get feedback from the SPs because the SPs' feedback contributed to my improvement	4.6 (0.6)
I was happy to get feedback from the trainer because the trainers' feedback contributed to my improvement	4.9 (0.3)
The themes of the scenarios reflected what was covered in the lectures	4.7 (0.6)
The practices with SPs improved my problem-solving skills	4.7 (0.5)
I enjoyed the practices with SPs	4.8 (0.4)
Practicing with SPs played an essential role in preparing me for "real life" counseling situations	4.7 (0.5)
I believe my communication and counseling skills were improved at the end of the education program	4.9 (0.3)
I felt confident using my theoretical knowledge during the laboratory practices with SPs	4.3 (0.7)
I enjoyed working in a small group sessions	4.8 (0.4)
I am of the opinion that the effectiveness of the education program mostly depends on the performance of the trainer	3.2 (0.8)
I wish I could practice with SPs more during the education program	3.1 (0.5)
I wish I could have taken this course earlier in my pharmacy education	4.6 (0.8)

SP: Simulated patient, M: Mean, SD: Standard deviation

expressed their feelings about the pharmacist-patient relationship. They reported that the pressure to distribute medications to keep their businesses alive caused problems with patient communication; they also felt that they were not performing their roles as consultants.[35,36] Pharmacists in Turkey thus experience conflicts between their roles as business people and as healthcare advisors.[37] While the low development in tool D could be attributable to the structure of the community pharmacy practice in Turkey, it might also have to do with role models. According to Rogers[38], empathy can be learned from empathic persons. Students during placements in community pharmacies observe the pharmacists' consultations with patients. As a consequence, by observing insufficient consultation styles negative informal messages conveyed to the students might explain the results for tool D. Since tool D is considered complex, more practice may be required to improve students' skills.[27]

As shown in Figure 1, students had the highest pretest scores for tool E. It can be said, therefore, that prior to the PPCCE, students were strong in the areas of verbal skills, non-verbal skills, effective questioning, organization, and professionalism. The high pretest scores could be attributable to students' awareness of being watched and scored during the interviews and their corresponding efforts to show professionalism. Such unnatural attitudes highlight the insufficiencies of the role-playing technique. Many studies have suggested that role-playing cannot mimic nature.[39,40]

Communicating effectively with patients while projecting a professional image is considered a distinct and important professional skill.[41] In the free comments, students expressed different opinions on how to behave as professionals during the opening session (tool A). Figure 1 shows that the PPCCE had an impact on developing a professional attitude at the beginning of the interview. Using in-class activities, such as discussions with the trainer and the other students, appeared to be effective and could have contributed to this development. The role of trainers is to help students gain the proper skills using their own insight.[42] The students participated actively and took at least some responsibility for their own learning.[43] Additionally, recognizing exemplars of professionalism through discussion and observation could help to provide a better example.[44]

Study limitations

Despite the demonstrated improvement in communication and counseling skills, as well as the positive feedback from students, there were some limitations to this study. First, the quasi-experimental design could have made it difficult to clearly ascertain the causes of improvements in skills. In future studies, control groups and some comparison groups including different teaching methods could be employed to determine the elements providing the improvements. Second, to explore the validity and reliability of PaCT and the feedback form in Turkish, detailed and comprehensive studies should be designed to demonstrate their psychometric properties. Third, as the education program was being implemented, the students continued their placements at community pharmacies

which, as discussed above, could have influenced them. A fourth limitation concerns the feedback from the SPs. Some students said the feedback from the SPs was unnatural. Since the SPs in the present study had been working as SPs for many years, routinization may have developed. It can be suggested, therefore, that changing SPs or educating them periodically might be necessary to contribute to outcomes. A fifth important limitation concerns the total length of the education program. Longitudinal education programs that aim to improve skills or attitudes should be designed to cover more than one semester. A spiral curriculum might be a better way to develop such skills. Finally, it should be noted that the results may not be generalizable to other universities or students.

After the study was completed, the PPCCE was added to the undergraduate curriculum of the Faculty of Pharmacy at Ankara University. This will help to guarantee the acquisition of such skills during undergraduate education for all students.

CONCLUSION

The communication and counseling skills education program met its goals of introducing students to the application of these skills with patients. In the future, the authors plan to develop this education program for greater effectiveness. Expanding the SP encounters and feedback sessions should be considered on the basis of students' evaluations. Peer assessment will be used for students to observe each other's performance and to improve feedback skills. In addition to adding this course to its curriculum, the Faculty of Pharmacy, Ankara University, has established a communication skills laboratory within the school.

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