

Basic Communication Skills Program for First-Year Medical Students: Assessment of the Effectiveness of the Program

I. Dönem Tıp Öğrencileri İçin Temel İletişim Becerileri Programı: Programın Etkinliğinin Değerlendirilmesi

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ABSTRACT Objectives: The study aims to introduce the basic communication skills program for first-year medical students and to evaluate its effectiveness at the second level of Kirkpatrick's evaluation method. **Material and Methods:** In this study, to evaluate the effectiveness of the program, students were evaluated before and after the basic communication skills training. The students (n=127, 87%) participating in both evaluations were included in the study. During the evaluations, each student made a 5 to 6 minute-long conversation with a simulated classmate performing a structured case. Each student was individually evaluated by his/her small group trainer using an evaluation scale including items on critical basic communication skills. **Results:** The total score was 57.97 ± 10.69 for pre-training and 77.55 ± 11.26 for post-training ($p=0.000$). There was no significant difference between the pre-training scores of female and male students. The post-training scores of the female students were significantly higher than the scores of male students ($p=0.034$). **Conclusions:** The basic communication skills program for first-year students was effective in gaining basic communication skills. The female students showed a more significant progress in basic communication skills than male students. This program and the method to evaluate its effectiveness may set an example for other medical schools.

Key Words: Students, medical; communication; program evaluation

ÖZET Amaç: Bu çalışmanın amacı, I. dönem tıp öğrencilerine uygulanan temel iletişim becerileri programının tanıtılması ve programın Kirkpatrick'in ikinci değerlendirme düzeyinde değerlendirilmesidir. **Gereç ve Yöntemler:** Çalışmada programın değerlendirilmesi amacıyla temel iletişim becerileri eğitiminin öncesinde ve sonrasında değerlendirmeler yapılmıştır. Her iki değerlendirmeye katılan 127 (%87) öğrencinin bulguları çalışmaya dahil edilmiştir. Değerlendirme sırasında her bir öğrenci kendi sınıf arkadaşları rolünü oynayan ve standart bir öyküyü canlandıran kişi ile 5-6 dakikalık bir konuşma sürdürmüştür. Her bir öğrenci kendi küçük grubundaki eğiticisi tarafından, önemli temel iletişim becerileri öğelerini kapsayan bir değerlendirme formu aracılığıyla değerlendirilmiştir. **Bulgular:** Öğrenciler ön değerlendirmede toplam 57.97 ± 10.69 puan, son değerlendirmede 77.55 ± 11.26 puan elde etmişlerdir ($p=0.000$). Ön değerlendirmede kız ve erkeklerin toplam puanları arasında fark saptanmamıştır. Kız öğrencilerin son değerlendirmedeki puanları erkek öğrencilerin son değerlendirmedeki puanlarından anlamlı düzeyde yüksek bulunmuştur ($p=0.034$). **Sonuç:** Birinci yıl öğrencileri için uygulanan temel iletişim becerileri programının temel iletişim becerilerini kazanmada etkin olduğu görülmüştür. Kız öğrenciler, erkek öğrencilere göre daha anlamlı bir gelişim göstermişlerdir. Bu programın ve etkinliğini değerlendirme yönteminin diğer tıp fakültelerine örnek oluşturabileceği düşünülmüştür.

Anahtar Kelimeler: Tıp öğrencileri; iletişim; program değerlendirme

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A physician's establishment of appropriate communication with the patient is a basic clinical skill, which supports the accuracy of diagnosis and the satisfaction of the patient and the physician¹⁻³ The impact of different communication experiences during medical education to

equip physicians with good communication skills is emphasized,⁴⁻⁷ in fact, some authors suggest that students with inadequate communication skills should not graduate.⁸ In a study from Turkey, medical students stated that communication skills training definitely should be a part of medical education.⁹ Communication skills can be acquired, learned, taught and improved during medical education and practice.^{2,10-13} The expansion of communication skills training to cover the whole length of the undergraduate medical curriculum is recommended.⁸ In several countries, this training is initiated in preclinical years, planned to be continued during the clinical training process and training activities specific to different health situations are used instead of traditional/classic methods.^{4,7,10}

The most essential components of education are the training content, and acquired skills and attitudes, rather than the teachers' field of expertise and performances.^{9,14}

Various assessment methods are used to assess communication skills of medical students. Observation checklists for skills and attitudes, rating scales for simulated and real patient interviews, interview reports of students and objective structured clinical examination are some examples.^{12,15,16}

In the Dokuz Eylül University Faculty of Medicine, "Communication Skills Training" has been implemented since the initiation of the Problem-based Learning (PBL) program in the 1997-1998 academic year. The first year of the program involves acquisition of basic communication skills. The second and third year objectives are to communicate with different patient groups and health team, and to deal with problematic situations.¹⁷

The aims of the basic communication skills in the first year are to gain knowledge and skills in listening, verbal non-verbal communication, empathy, assertiveness, and giving and receiving effective feedback. During the program, topic specific warming up exercises, small group studies, role-plays, movie screening, interactive lectures are used. Topic specific checklists are used during the sessions, and handouts are distributed. The program is implemented during the first semester. With the exception of opening and closing sessions, the students are divided into two groups and each group is further divided into six gender-balanced small groups of 12-13 students. Each small group works with the same trainer throughout the program. The students attend seven sessions of 1.5 hours duration throughout the program (Appendix 1).

APPENDIX 1: The implementation of basic communication skills program.

Topics	Students attending the sessions	Method
Opening Session		
Introduction to basic communication skills	Whole class	Small group study (6 groups*) and interactive lecture
Pre-Training Evaluation		
Listening and non-verbal communication	Group A (half class) one week	Small group study (6 groups**)
	Group B (half class) following week	and interactive lecture
Verbal communication	Group A (half class) one week	Small group study (6 groups**)
	Group B (half class) following week	and interactive lecture
Empathy	Group A (half class) one week	Small group study (6 groups**)
	Group B (half class) following week	and interactive lecture
Assertiveness	Group A (half class) one week	Small group study (6 groups**)
	Group B (half class) following week	and interactive lecture
Giving-receiving effective feedback	Group A (half class) one week	Small group study (6 groups**)
	Group B (half class) following week	and interactive lecture
Closing Session	Whole class	Movie screening, general discussion, filling in the course-end feedback form
Post-Training Evaluation		

* Group size: 24-26 students.

** Group size: 12-13 students.

The course of the opening session is as follows; presentation of aims and objectives, introduction of the trainer team, an interactive lecture on the importance of basic communication skills in medical practice, group discussion on “importance of basic communication skills in medical practice” and “expectations from the basic communication skills program” topics.

At the closing session of the program, oral and written student feedback on the entire program is obtained and a movie emphasizing the importance of communication skills in medical practice is shown.

During the program, for formative assessment purposes, trainers and peers use checklists to evaluate student performance. After the termination of the program, a summative assessment is used to determine the gains in basic communication skills of the students.

The trainer team consists of five physicians and one psychologist from the departments of medical education, child & adolescent psychiatry, psychiatry and public health. The former training experience of the trainers in basic communication skills ranges between 3-5 years.

At the end of each session, oral and written student feedback on positive and negative aspects and suggestions on points to be improved are obtained. At the closing session of the program, students give written feedback on content, training methods and perceived contribution of the program and trainers. In the light of student and trainer feedback, the program is revised annually.¹⁸

In the evaluation of educational programs, there are four evaluation levels developed by Kirkpatrick.^{19,20} The first evaluation level is to determine the reactions of the students. Student and trainer feedback, previous and ongoing basic communication skills program related studies could be cited as examples for this evaluation level. At the second evaluation level of Kirkpatrick knowledge, skills and attitude gains of the students are evaluated in relation with the learning objectives.^{19,20}

The aim of this study was to present a basic communication skills program for first year students and a method to evaluate the effectiveness of this program at Kirkpatrick's second level.

MATERIAL AND METHODS

STUDY DESIGN AND PARTICIPANTS

The present article presents the findings of 127 (86%) out of 147 first-year students enrolled in the Dokuz Eylül University School of Medicine who had participated in both pre- and post-training evaluation. The gender distribution of the students was 54 females and 73 males.

The before-and-after test design was used for program evaluation.²¹ In accordance with this design the pre-training evaluation was performed on October 11th 2005, at the beginning of the academic year, before the start of the program and without any previous student preparation. The same evaluation was repeated on January 19th 2006, at the completion of the training program. The students were informed on the pre-training evaluation during the opening session of the program. They were told that they would be expected to converse for about five to six minutes with a person who, based on a standard story, would be playing the role of a classmate (Appendix 2).

Prior to pre-training evaluation, a standardization study was conducted with the trainers and standardized persons. The standardized persons were provided with an information sheet consisting of the standard story, explanations about the story and questions likely to be asked by the students (Appendix 2). They were instructed to wait for the students to initiate the conversation, not to provide detailed explanation and not to broaden the story before receiving probing questions from the students. The standardized persons were informed on their roles in the standard story and the evaluation process, and their questions were answered. During the standardization study, the standard story was rehearsed with the standardized persons who afterwards discussed their experiences with the trainers. The trainers gave instructions to improve their performance. As a preparatory exercise, the trainers filled in the evaluation scale while watching the story rehearsal. The trainers held a meeting to discuss the scores they attributed to each item on the evaluation scale and tried to

APPENDIX 2: Case - information for standardized person.

Basic problem: You want to leave the university dormitory and rent a house with two classmates but your family does not support this idea.

Story: You are a first-year medical student. During the previous preparatory year, you stayed in the university dormitory. This year you want to share a flat with two classmates. You phoned your family to ask their opinion but they did not want you to rent a flat. You are upset about this and you have to give a definitive answer to your friend.

Details: Two of your classmates have found a flat to rent and propose you to join them. The rent is 450 Turkish Liras a month and if you share it with two friends, you will need to pay 150 Turkish Liras. You have a well off family and their reason for opposing you is not financial. If you do not accept your friends' proposal, they will look for a more reasonably priced flat.

If the student asks your reasons for opting to leave the dormitory:

Dormitory rooms are for four students, you do not have a classmate in your room. Living in the dormitory, you have problems in studying, sleeping and spending your leisure time.

If the student asks why your family does not want you to move to a flat:

If the standardized patient is female: Your family has some concerns and thinks that living in the dormitory would be safer for you. Your family is not very conservative and they are still upset about it.

If the standardized patient is male: Your family believes that if you live outside the dormitory, you may have safety problems and you may have improper friends. They do not want you to get into trouble. The rest may be improvised; natural answers should be given to student's questions. Over encouraging should be avoided to make the student more at ease.

Special note to the standardized person: The student should initiate the conversation. Unless asked, detailed information should not be given; the story should not be broadened.

develop a standardized approach for the evaluation of each particular item on the scale (Appendix 2).

The evaluation was carried out in six separate rooms and the trainers evaluated the students individually. The same trainers performed the pre and post-training evaluations of the same group of students. The setting of the evaluation room was conducive to a positive atmosphere for both the standardized persons and students. While trying to be as inconspicuous as possible, the evaluators positioned themselves to follow the dialogues and observe the body language of the students easily.

Before the pre- and post-training evaluation, an instruction sheet was distributed to the students. The sheet consisted of the following items;

- They were expected to converse with a standardized person who would be playing the role of a classmate with a problem for about five to six minutes,
- They were expected to initiate the conversation,
- They were not expected to find a solution to the problem presented and,
- Their basic communication skills would be evaluated by a trainer.

INSTRUMENT

The evaluation was performed using an evaluation scale consisting of items about the basic communication skills during the dialogue between the standardized person and the student (Appendix 3). Based on the intended objectives of the program, the basic communication skills evaluation scale was developed with the contributions of faculty members who had previously participated in communication skills training. The six items on the evaluation scale were directly related with the training program topics and were essential components for basic communication skills. The first item of the scale, *using appropriate body language*, was related particularly with basic communication skills like verbal communication, empathy, and listening. The second item, *not to interrupt a speaker*, was essential for the listening skill, also related with verbal communication and empathy. The third item, *asking open-ended questions*, was an essential item of verbal communication, also closely related with feedback, empathy, and assertiveness. The fourth item, *not to give advice for evading* was indispensable for the empathy skill, also closely related with assertiveness, verbal communication, and giving & receiving feedback.

APPENDIX 3: Evaluation scale.

Evaluated items	1	2	3	4	5	Coefficient	Total
Using appropriate body language						3	
Not to interrupt a speaker						3	
Asking open-ended questions						4	
Not to give advice for evading						3	
Expressing own feelings and thoughts						3	
Understanding and expressing interlocutor's feelings and thoughts						4	
TOTAL							

The fifth item, *expressing own feelings and thoughts*, was an essential characteristic of assertiveness and was closely related with verbal communication and giving & receiving feedback. The last item of the scale, *understanding and expressing the interlocutor's feelings and thoughts*, was one of the most essential verbal communication and empathy skills, also related with effective feedback.

Based on the scores obtained by the students on each item, the lowest performance level was determined as 1 point and the highest as 5 points. The scores obtained on each item were multiplied by a coefficient ("*using appropriate body language*" by 3, "*not to interrupt the speaker*" by 3, "*asking open-ended questions*" by 4, "*not to give advice for evading*" by 3, "*expressing own feelings and thoughts*" by 3, "*understanding and expressing the interlocutor's feelings and thoughts*" by 4). The scores that could be obtained from the scale ranged between 10 and 100.

STATISTICS ANALYSIS

The collected data were evaluated using SPSS 11.0 package program. The paired-samples t-test was used to compare the pre- and post-training scores, and independent-samples t-test was used to compare the pre- and post-training scores of male and female students.

RESULTS

The pre- and post-training scores of the students were given in Table 1. In basic communication

skills, the average total score was 57.97 ± 10.69 for pre-training and 77.55 ± 11.26 for post-training evaluation. The difference between the pre and post-training scores for each item and for total scores was significant ($p= 0.000$).

While the item "not to give advice for evading", scored low both in the pre- and post-training evaluation (Table 1), the item "not to interrupt a speaker" received high scores in both evaluations. In the post-training evaluation, the most notable improvement was in the items "asking open ended questions" and "not to give advice for evading" (Table 1).

The difference between the total pre-training scores of male and female students was not significant ($p= 0.824$).

The post-training scores of female students were significantly higher than the scores of male students ($p= 0.034$).

DISCUSSION

The significant difference in the scores for each of the basic communication skill items and total scores in both the pre- and post-training evaluation suggested that, regarding basic communication skills, there was a meaningful improvement in all students after the training.

One of the essential items of the empathic approach "not to give advice for evading" scored low in both the pre- and post-training evaluation. The most common spontaneous student behaviors ob-

TABLE 1: Average student scores on basic communication skills items.

Parameters in the evaluation scale	Pre-Training Evaluation	Post- Training Evaluation	t	p*
	Average ± SS	Average ± SS		
Using appropriate body language (max. point= 15)	12.33 ± 2.68	14.10 ± 1.83	8.884	0.000
Not to interrupt a speaker (max. point= 15)	12.73 ± 2.53	14.62 ± 1.25	8.066	0.000
Asking open-ended questions (max. point= 20)	10.86 ± 3.01	15.65 ± 3.34	12.485	0.000
Not to give advice for evading (max. point= 15)	5.83 ± 2.76	9.71 ± 3.06	12.310	0.000
Expressing own feelings and thoughts (max. point= 15)	8.13 ± 3.65	10.51 ± 3.20	6.567	0.000
Understanding and expressing interlocutor's feelings and thoughts (max. point= 20)	8.09 ± 4.26	12.95 ± 4.57	9.304	0.000
TOTAL (max. point= 10)	57.97 ± 10.69	77.55 ± 11.26	15.925	0.000

* Paired samples t-test.

served throughout the training program were giving advice while listening to the problem of the interlocutor, difficulty in tackling a problem, and demonstrating evasive behavior. In the course of the training, the students mentioned those behaviors as the most difficult to change. The students indicated that when somebody shared a problem with them, they frequently felt inclined to help and engage in a counseling role. Previous studies indicated that, when Turkish people met a person with a problem, with the pressure to talk, they tended to give advice rather than demonstrating a high-level empathic response.²² Gordon cited the importance of giving advice or providing solutions among the potential communication barriers against people opening their feelings and sharing their problems.²³ Although the scores attributed to this item were low in both the pre- and post-training evaluation, it was the item with the second most significant improvement after the training.

The attribution of high scores to the item “*not to interrupt a speaker*” in the pre- and post-training evaluation suggested that the students were already sensitive about this point prior to training.

The item with the most significant improvement was “*asking open-ended questions*”. While the students tended to use closed-ended and directing questions in the pre-training evaluation, after the training, they used open-ended questions more frequently to probe the problem and understand

the interlocutor’s feelings during the post-evaluation.

In the post-training evaluation, the significant difference in the total scores in favor of female students is consistent with the results in other studies. Previous studies have shown that female students are generally more successful than male students are in communication and empathy skills.²⁴⁻²⁶ In a review on learning and teaching methods of communication skills, Aspegren emphasized that male students gained communication skills more slowly than female students did.¹⁰ Hojat et al developed the Jefferson Scale to evaluate empathy in physicians.²⁵ The scores obtained from this scale including body language, verbal communication, facial expression, non-verbal hints, questioning the patient on his or her complaints and evaluating the emotional status of the patient, were higher in females. In a study from Norway, female medical students had more positive cognitive and affective attitudes towards learning and using communication skills.²⁷ Another study from Turkey reported that in interviews with pregnant woman and women in labor, female physicians were using communication skills like eye contact and effective listening more effectively than males did.²⁸

The absence of a control group is a limitation of the present study. Since all first-year students starting their medical education took the basic communication training in the same time interval, there were no students to form a control group.

CONCLUSION

Based on the present study, the authors reached the conclusions that basic communication skills program for first year medical students was effective for gaining basic communication skills and the female students showed a more significant improvement in basic communication skills than male students.

Based on the findings of the present study, the basic communication skills program should be continued with appropriate revisions especially to improve the performance of male students. This program and the method to evaluate its effectiveness may set an example for other medical schools.

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