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Effects of Simulated Patient Practice on Attitudes towards Communication Skills Training of Medical Students: An Intervention Study*

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ABSTRACT

Communication is a basic clinical skill that can be learned, taught, and evaluated. This study aimed to assess the attitudes of medical faculty sophomore students toward the communication skills training module consists theory courses and simulated patient interviews. This study was planned in a before-and-after intervention study and was carried out with 257 second-year medical students. The Communication Skills Attitude Scale (CSAS) was used for data collection. The scale was administered to the participants before the training (1), after the training (2), and after the simulated patient interviews (3). Positive attitude scores (PAS 1,2,3), and negative attitude scores (NAS 1,2,3) were evaluated. The mean age of the students was 20.13±2.13 years, and 133 (51.8%) were female. PAS 1 and PAS 3 scores were 55.38±6.58 and 58.05±7.39, respectively, while NAS 1 and 3 scores were 30.25±4.49 and 28.88±4.96, respectively. PAS 3 was considerably higher than PAS 1 and 2 scores (p=.03), at the same time NAS 3 was significantly lower than NAS 1 and 2 scores (p=.00). There was no difference between the positive and negative attitudes of females and males before the training (p>.05). However, after the training, female's positive scores significantly increased compared to men (p=.03), and their negative scores decreased (p=.01).

Keywords: Communication Skills, Communication Skills Attitude Scale, Medical Student, Simulated Patient.

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Introduction

Communication is one of the most essential elements of the physician-patient relationship. A physician conducts approximately 200,000 interviews during professional life. Also, competence in communication skills is accepted as an indicator of quality in health service delivery (Kurtz et al., 2017).

Effective communication is associated with positive results for patients, such as reducing anxiety, adherence to treatment plans, reduction in diagnostic tests, referrals, hospital stay, increased satisfaction, and improved health outcomes. For physicians, a reduction in work-related stress, increased job satisfaction, and decreased malpractice claims and complaints are associated with a decrease in burnout (Kurtz et al., 2017; Miller, 1988; Stewart et al., 1999; Travaline et al., 2005).

It has been shown that inappropriate and poor communication has negative consequences in all areas listed above. Unfortunately, studies show that there are serious communication problems between physicians and patients (Agledahl et al., 2011; Mjaaland et al., 2011; Platt and McMath, 1979; Ranjan et al., 2015; Ruiz Moral et al., 2006).

Communication is not just a personality-related concept but a set of learned skills. Personality traits are important, but most of the ability to communicate is learned. It has been shown that traditional medical education methods (master-apprentice relationship, observing role models, and learning with experience) erode students' communication skills. These are ineffective learning models for communication skills. It is also known that there can be negative role models, and 'learning over time with experience' can be a bad teacher. There is very strong evidence indicating the benefits of teaching communication skills to medical school students (Hojat et al., 2004).

Communication skills are clinical skills that can be learned, taught and evaluated (Çınar Tanrıverdi, 2021). It is important to teach and assess communication skills at both undergraduate and graduate levels and to gain attitude as well as skill in providing medical students to communicate effectively with patients (Batalden et al., 2002; Frank et al., 2015).

Communication skills are defined as a competency area in the National Core Education Program (NCEP), which is expected to adapt to the undergraduate education programs of medical faculties in Turkey (Gürpınar et al., 2019). Various methods such as theory lectures, role-play practices, videos, discussions, reflections, sample cases and scenarios, psychodrama, and simulated and standard patient practices are used in teaching communication skills (Kurtz et al., 2017).

A simulated patient (SP) is someone trained to act out a script. SPs are increasingly used in both teaching and evaluating communication skills, providing students with the opportunity to repeat and improve themselves in a safe environment without fear of harming the patient. SPs are valuable in terms of delivering live and interactive simulations of special communication situations (such as breaking bad news and meeting with difficult patients) as well as applying basic communication skills, such as meeting patients and taking history (Elçin et al., 2010).

SPs have been used in communication skills training at Atatürk University Faculty of Medicine since 2014. There is a communication skills laboratory consisting of four interview rooms with sound insulation and a system control room. Students make interviews with SPs accompanied with a standard guide, using an audio-visual recording. Immediate feedback is given to the student by the SP after the consultation. One week after the interview, the recordings of the interview are monitored through a debriefing session, the interviewers evaluate themselves, and feedback is given by peers and trainers. In this way, the students evaluate what they do, how they do it, their shortcomings, positive and negative aspects during the interview, and make a reflection by receiving feedback from the educators and peers.

Students' positive or negative attitudes toward education are an important determinant of educational success. Medical students may have a negative attitude toward communication courses between the intensive medical curriculum. A medical student is eager to learn medical skills (such as suturing). They

are aware that they have no knowledge of the subject and need training. However, communication skills are different. Students come across a certain communication skill that they already have and often do not think they need such an education. This is perhaps the most challenging aspect of teaching communication skills to medical students.

Various factors, such as the duration, structure, and content of the program and educational strategies, students' attitudes are also an important determinant for the success of the education. Studies assessing the attitudes serve as a reference in the evaluation and development of the program (Searle & Prideaux, 2005).

Although there are many studies investigating students' attitudes towards communication skills education, studies comparing the effects of various educational techniques on these attitudes are limited (Çınar Tanrıverdi, 2022). Furthermore, there is no previous study that measured students' attitudes towards communication skills education and investigated the effect of this education in our school.

In this study, it is aimed to determine the attitudes of second year medical school students towards communication skills training, and to evaluate the effects of theoretical training and simulated patient interviews on these attitudes. With this study, answers to the following questions are sought:

1-How are the sophomore students' attitudes towards communication skills education?

2-What are the effects of simulated patient interviews and other training methods on these attitudes?

Methods

Study Design and Participants

The research was designed as a before-and-after intervention study. Theoretical courses and simulated patient interviews were organized for medical faculty sophomore students on communication skills in the medical education program. The study population consisted of second-year students (n=320) who participate in the communication skills training module and make simulated patient interviews. Of the students, 300 who accepted to participate were included in the study. Faulty or incomplete forms (n=43) were excluded, and the complete data of 257 students were analyzed, reaching 80% of the population (Figure 1). A short personal information form determining the age and gender of the students and the "Communication Skills Attitude Scale" were used as data collection tools.

Figure 1. Flow Chart of the Study

Communication Skills Attitude Scale

The Communication Skills Attitude Scale (CSAS) is a scale developed by Rees and Garrud in 2001 to investigate the attitudes of medical students towards learning communication skills. The scale consists of 26 items aimed at determining positive and negative attitudes. Positive attitude items (item number 4, 5, 7, 9, 10, 12, 14, 16, 18, 21, 22, 23, and 25) show positive attitudes towards learning communication skills (PAS), and negative attitude items (item number 1, 2, 3, 6, 8, 11, 13, 15, 17, 19, 20, 24, and 26) show negative attitudes (NAS) towards learning communication skills (Rees et al., 2002).

CSAS is a widely used scale whose validity and reliability have been studied in many countries over a decade (Alotaibi and Alsaeedi, 2016; Anvik et al., 2007; Busch et al., 2015; Hh and Chen, 2014; Rees et al., 2002; Zhang et al., 2019). The adaptation of the scale to Turkish and its validation study was conducted by Harlak et al. in 2008, and it was stated that it could be used to measure the attitudes of medical students towards communication skills training (Harlak et al., 2008).

The scale is responded to and scored according to a 5-point Likert system (1 strongly disagree, 5 absolutely agree). There is no item to be reversed in the scale. Positive and negative attitude items are collected separately and defined as PAS and NAS scores. The score that can be obtained from the scale ranges between 13 and 65 for each sub-dimension (Harlak et al., 2008).

Intervention

The study was conducted between October 2019 and January 2020. CSAS was first administered to the students as a pre-test before the communication skills training module. Afterward, theoretical lessons, positive and negative patient-physician communication, case analysis with sample videos, discussions, and reflection activities were carried out under the titles of verbal and non-verbal communication, body language, empathy, active listening, patient-doctor communication, communication conflicts, and solutions, which are the first part of the communication skills training module. After this one-month progressive communication skills training module, students answered CSAS for a second time. Finally, the students had a “welcoming the applicant or patient” meeting with an SP, accompanied by a structured educational guide, and received feedback from the patients. In this interview, the focus was on the students' meeting the patient properly, interviewing in a positive communication climate (eye contact, empathy, asking open-ended questions, active listening, encouraging the patient to speak, not interrupting his/her words, making plans, saying goodbye). One week after the interview, while feedback was given to the students by their peers and educators in the debriefing session, each student also made his own self-evaluation. It was applied to the students for the third time three months after the debriefing. The effect of communication skills training module on students' attitudes was evaluated. Attitude scores were defined as PAS 1 and NAS 1 before training, PAS 2 and NAS 2 after training, and PAS 3 and NAS 3 after the simulated patient interviews (Figure 2).

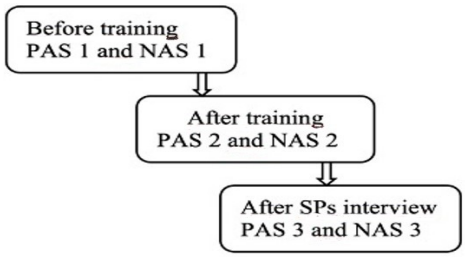

Figure 2. Application Times of the Scale

The ethical permission for the study was obtained from the Atatürk University Faculty of Medicine Ethics Committee (Number: B.30.2.ATA.0.01.00/58). The study was conducted according to the principles of the Declaration of Helsinki.

Statistical Analyses

Data were analyzed using the SPSS 25.0 (SPSS Inc., Chicago, IL, USA) statistical package program. Results were presented as number, percentage, mean and standard deviation. In the comparison of two dependent groups, the one-way Anova test was used for cases with normal distribution, and the Kruskal Wallis test was used for variables that did not show normal distribution. The statistical significance level was accepted as $p<.05$.

Results

The mean age of the students was 20.13±2.13 years, and 133 (51.8%) of them were female. Mean PAS 1 and PAS 3 scores were 55.38±6.58 and 58.05±7.39, respectively, NAS 1 and 3 scores were 30.25±4.49 and 28.88±4.96, respectively. While there was no significant change in PAS and NAS scores before and after the theory instructions, a substantial increase in PAS scores (p=.03) and a significant decrease in NAS scores were observed after the simulated patient interviews (p=.00). The changes determined in the attitude scores of the students before the training, after the theoretical training, and after the SH interview are shown in Figure 3.

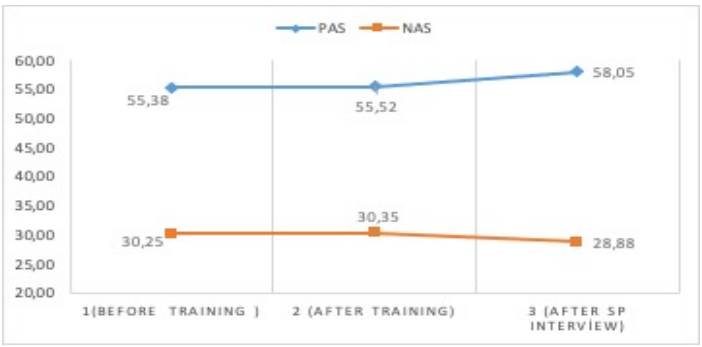

Figure 3. Comparison of scale scores before, after and after training and simulated patient interview

When evaluated according to gender, while there was no difference in the initial positive attitude scores (PAS 1) of female and male students (p>.05), the positive attitude scores of female students after the theoretical training (PAS 2) and after the simulated patient interviews (PAS 3) were higher than the male students, and the difference in PAS 2 was statistically significant (p=.03).

All three NAS scores of female students were lower than male students, and the difference in NAS 2 scores was statistically significant (p=.01) (Table 2). The PAS scores of the female students increased after both the theory course and the simulated patient interviews, and the NAS scores decreased after the simulated patient interviews. The difference between PAS 2 and NAS 2 scores of male and female students was statistically significant (p=.03 and p=.01 respectively, Table 1).

Table 1. Comparison of PAS and NAS Scores by Gender

	Male		Female			
	Mean±SD	Med(min-max)	Mean±SD	Med(min-max)	z	P
PAS-1	55.08±6.74	55(25-65)	55.65±6.45	55 (18-65)	-.203	.839
PAS-2	54.52±7.24	55(26-65)	56.45±7.23	56 (14-65)	-2.167	*.030*
PAS-3	56.84±8.79	56(24-65)	58.98±6.02	59 (41-65)	-.998	.318
NAS-1	30.79±4.44	31(20-43)	29.75±4.49	29 (20-44)	-1.932	.053
NAS-2	31.27±6.41	31(16-60)	29.50±5.26	29(19-48)	-2.565	*.010*
NAS-3	29.98±5.37	30(19-43)	28.04±4.50	28(18-40)	-1.861	.063

When asked about their satisfaction with the program, 238 (92.7%) of them stated that they were satisfied with the communication skills training, and the part they liked most in the program was the SP interviews.

Discussion

We investigated the attitudes of medical faculty sophomore students towards communication skills training and the effects of training and simulated patient interviews on these attitudes with CSAS (Rees et al., 2002).

It was observed that the attitudes of sophomore medical faculty students towards communication skills training were quite good. In general, it can be said that students' attitudes towards communication skills are satisfactory. However, the scores before and after the theoretical courses did not change. The lack of contact with a real patient ensures that these results are evaluated more positively. SP interviews have been found to further improve these attitudes.

Although many studies use CSAS in international literature, the number of studies using this scale in Turkey is extremely limited. Besides, studies investigating the effects of educational methods on attitudes are limited in international literature, only one study conducted in Turkey has been found (Harlak et al., 2008).

In the current study, pre-education PAS scores were 55, and NAS scores were 30. In a study conducted with 3rd and 4th-grade students in Nepal (Shankar et al., 2006), the PAS score was 51, while in another study, the PAS score was 47, and the NAS score was 31(Shankar et al., 2013).

Studies investigating the effects of training on attitudes have reported different results, such as an increase, decrease, and no change in attitude scores. In our study, positive attitudes increased significantly after the training program, and negative attitudes decreased significantly. However, after the theoretical instruction, no change was observed in PAS and NAS scores, and it was found that SP interviews increased positive attitudes and decreased negative attitudes.

Similar to our results, in a study conducted by Koponen et al. with sophomore students, it was found that PAS scores significantly increased and NAS scores significantly decreased after training (Koponen et al., 2012).

The increase in PAS scores after simulated patient interaction may be due to their gaining life experience and being in a one-to-one conversation process. In another study comparing the effectiveness of theater, SP, and role-play methods, PAS scores increased in all groups after training (Hulsman et al., 1999).

In a study conducted with 2nd-grade students in Finland, similar to our results, it was shown that there was an increase in PAS scores and a decrease in NAS scores after training (Clèries et al., 2006).

There are also studies reporting contrary results. In a research conducted with first-year students in England, PAS scores were lower after training (Rees & Sheard, 2003).

In a survey conducted by Harlak et al. (2008) with 59 students studying in the first grade, positive attitude scores decreased after education, and there was no significant change in negative attitude scores (Harlak et al., 2008). Factors such as the method, content, and duration of the training may have been effective in these different results. In a study conducted by Batenburg et al. with 2nd and 3rd-grade students, students' attitudes were examined before, immediately after, and 6 months after education, and no significant change was found. These results suggest that special effort is required to develop attitudes (Batenburg and Smal, 1997).

In our study, 92.7% of the students were happy with communication skills training. In studies on the subject, it has been shown that most of the students are satisfied with the communication skills training

and find the training important, useful, and necessary (Rees and Garrud, 2001; Rees et al., 2002; Sarıkaya et al., 2004; Şenol et al., 2006).

In the study conducted by Rosenthal and Ogden with first-year students, it was reported that 89.3% of the students valued learning communication skills (Rosenthal and Ogden, 1998).

In another study conducted with first-year students, it was determined that 97.2% of the students thought that communication is important, and 90.7% of them mentioned that communication lessons are necessary (Uluoğlu et al., 2007). The results are consistent with each other.

Our study found no significant change in the attitude scores compared to the pre-test in the evaluation we made right after the first part of the training program (the theoretical lessons including video examples, case analysis, and discussion) was completed. Thus, we determined that the educational step that leads to an increase in positive attitude scores and a decrease in negative attitudes, in other words, to improve attitudes, is the SP interviews. These results support that learning by doing and experiencing activities are more effective than theoretical training in developing attitudes. It has been shown that positive attitudes are superior in problem-based learning methods and student-centered activities (Rees et al., 2002).

It is known that experiential methods are more effective than instructional strategies in teaching communication skills (Elçin et al., 2010). It is recommended to include various, multiple, and student-centered methods in communication skills training (Dalen et al., 2001; Dent et al., 2017; Rees et al., 2004).

Today, experiental methods such as simulated and standard patients are widely used in communication skills training (Karabilgin et al.).

In the current study, there was no difference in the positive attitudes of female and male students before the education, while female students' negative attitude scores were lower but not statistically significant. We found that female students' PAS scores were significantly higher than male students both after theoretical training and simulated patient interviews, while NAS scores were markedly lower after simulated patient interviews. Our results are similar to many studies revealing that female students have more positive attitudes than men (Anvik et al., 2008; Aspegren, 1999; Bombeke et al., 2011; Cangür & Gamsızkan, 2019; Molinuevo and Torrubia, 2011; Rees et al., 2002; Sarıkaya et al., 2004). This difference between male and female students has been associated with female's being more open to communication and gender characteristics. Contrary to these results, Shankar et al.'s study did not find any difference between male and female students' attitudes (Shankar et al., 2006).

It is recommended to include various, multiple, and student-centered methods in communication skills training (Dalen et al., 2001; Dent et al., 2017). We used video recordings with examples of positive and negative communication, case studies, theoretical lectures, reflection sessions, and SP interviews. In various studies, it has been shown that students prefer methods that provide active participation, such as video, discussion, role-play, and simulation in communication skills training (Rees & Sheard, 2003; Rees et al., 2004; Sarıkaya et al., 2004; Şenol et al., 2006).

In the current study determined that the students were most satisfied with the training module, and the most effective training activity on attitudes was SP interviews. Similarly, in another study, students were satisfied with SP interviews in their communication skills training (Karabilgin et al.).

Having effective communication skills is necessary not only in patient-doctor relationships but also in interactions with team members, colleagues, community, interprofessional people, and intercultural encounters. One of the physician roles expected from medical faculty graduates is to be "communicator". All other functions, such as team members, community leaders, managers, health advocates, service providers, professionals, also require being a good communicator (Gürpınar et al., 2019).

Medical students understand the value of their communication skills best during the clinical period and in real patients encounters. However, it is known that communication skills training in the first years of medical education is not reinforced in clinical years and postgraduate education. It is crucial that communication skills training start at the earliest stage, be structured gradually from basic skills to complex skills, and include clinical periods of medical education (Laidlaw et al., 2002).

There are some limitations of the study that should be mentioned. The most important limitation of our study is that only one medical school was conducted with only second year students. Therefore, our results cannot be generalized to all second-year medical school students. Another limitation is that the scale was applied three months after the training. The results are the first findings and are not sufficient to predict the long-term effects of education. Since the study did not cover clinical periods, the impact of interaction with the actual patient on attitudes could not be evaluated. Finally, as the scale used is a self-assessment tool, the data are based on students' self-assessment.

Conclusion

Attitudes of sophomore medical students towards communication skills training module are generally positive. Positive attitudes increase significantly with education, while negative attitudes decrease significantly. Simulated patient interactions made the most important contribution to the improvement of attitudes. In the light of these results, we emphasize that simulated patient interactions should be included more in the medical educations. To evaluate the effectiveness of education programs, student attitudes should be followed regularly, and large-scale studies should be conducted to compare different education methods.

Ethics Committee Approval: The ethical permission for the study was obtained from the Atatürk University Faculty of Medicine Ethics Committee (Number: B.30.2.ATA.0.01.00/58).
Informed Consent: Informed consent was obtained from the participants.
Peer-review: Externally peer-reviewed.
Author Contributions: Concept ECT, YS; Design-ECT, YS; SupervisionYS, PDK; Resources-ECT; YS ; Data Collection and/or Processing-ECT; Analysis and/or Interpretation-ECT, PDK, YS; Literature Search-ECT, YS, PDK; Writing Manuscript-ECT, PDK, YS ; Critical Review-ECT, PDK, YS; Other-*
Conflict of Interest: The authors have no conflicts of interest to declare.
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