

# Teaching Empathy in Medical Education

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## **SUMMARY: Teaching Empathy in Medical Education**

**Objectives:** To determine whether there is any difference in empathic tendencies and attitudes towards communication in medical practice among the first-year students of Adnan Menderes University Medical School, and to determine the effect of education and the relation between these two features.

**Method:** The Empathic Tendency Scale and Attitudes Towards Communication in Medical Practice Questionnaire were used to collect data from 36 (55.3 % of the total) students (65.7 % female; mean age: 18.3).

**Results:** Students are clustered into two groups for both scales using K-means analysis, which was used to see whether the students were homogeneous regarding empathy and communication attitudes at the beginning of the teaching period. According to the Empathic Tendency Scale results 25% of students have a high empathic tendency (HET) and 75% have a low empathic tendency (LET) and the results of the Attitudes Towards Communication in Medical Practice Questionnaire indicated that 56% have positive and 44% have negative attitudes towards communication. However, the difference between the pre-and post-teaching results of either group seems to show a tendency towards change ( $p < 0.10$ ). The change has a negative and a positive tendency in the HET and LET groups, respectively.

**Conclusion:** Our results seem to verify the predicted differences among the students in their empathic tendencies and attitudes towards communication in medical practice. It seems that empathic tendency is more likely to be changed by an appropriate teaching technique when change within the groups is concerned.

**Key Words:** Empathy, education, medicine, undergraduate, communication

## INTRODUCTION

Physicians are increasingly focusing on science, technology and medical economics and various authors accuse medical trainers of raising students who do not understand the circumstances of and show adequate tenderheartedness to patients (Starr 1982, Ludmerer 1999). Wilkes and colleagues emphasized what the trainers should do in order to make medical students consider there is a human being behind the curtain, at the end of the endoscope or in the scanner who thinks, feels and scares (2002).

Hojat and colleagues reported that the quality of interpersonal communication between the physician and the patient was very important in adequacy of clinical consequences (2002). They thought that this quality depended largely on the skills of the physician, so this characteristic should be taken into consideration in determining clinical sufficiency. There are some other data consistent with this point of view (Hojat et al. 1986). If the patient thinks that he is been understood during the interview, then he will be relaxed and express himself easily. Consequently, diagnosis will be exact and participation of the patient to therapeutic process will be provided. One of the first examples was in Maastricht University from Netherlands and they performed necessary program changes by 1980s. A study group which was formed by behavioral scientists, family practitioners and specialists from other clinical sciences trained the students about communication skills for four years and reported their results (Van Dalen et al. 1999, 2001). They evaluated which factor most influenced communication skills and found that the content of the program was most prominent (1999). Nowadays,

training for communication skills takes place in academic programs of many medical schools in USA or other countries (Makoul 2003). In our country, training programs for communication skills are present in medical schools of Marmara, Dokuz Eylül, Pamukkale and Adnan Menderes Universities where training model is active, integrated and mixed (Sayek and Kılıç 2000, Dereboy et al. 2001). Research on communication skills education revealed that content, timing, training and evaluation methods varied between different medical schools (Harrison and Glasgow 1996, Hargie et al. 1998, Aspergen 1999, Sarıkaya et al. 2004).

In "Physicians of Tomorrow 2003" report of British Medical Council, training for communication skills was considered as an important part of medical education programs and 12 learning objectives were determined. Four of them were related with positive attitudes towards learning communication skills. Moreover, development of empathy in order to provide satisfactory patient-physician relationship was one of the proposed learning objectives of the Association of American Medical Colleges (AAMC Medical School Objective Project, Report I 1998). Empathy was defined as "considering oneself as the opposite person". A more clear definition was "an intellectual activity which aims to better understand sensations and point of view of other people" (Egan 1998). But to understand perceptions and sensations of other people intellectually was not adequate; to express empathy to other people was complementary (Dökmen 1999). As other individual characteristics, empathy varies between people. Some people may have a lesser degree of empathy as a consequence of developmental, experimental, social, educational and other internal or external factors (Hojat et al. 2002)

In Adnan Menderes University, training for communication skills is administered between grades 1 to 5. A research project which aimed to evaluate attitudes of medical students towards learning and using communication skills in medical practice as well as the development of listening and empathy was carried on. In this study we aimed to evaluate in-group differences of attitudes towards learning communication skills and empathic tendencies, whether these characteristics changed after training program or not and how they interacted with each other among first year students of Adnan Menderes University Medical School.

## **METHOD**

### **Participants**

First grade students of Adnan Menderes University Medical School in academic period of 2003-2004 were included in the study: the numbers of participants were 62 in pre- (females 49.2 %, males 50.2 %, mean age 18.4, SD=0.8) and 36 in post-education periods (females 65.7 %, males 34.3 %, mean age 18.34, interval=17-20, SD=0.68). Accessibility ratios according to grade presences were 95.3 % in first and 55.3 % in last tests.

### **Materials**

Empathic Tendency Scale (ETS): This is a self-report scale consisting 20 items. Each item is scored between 1-5 according to answers as "absolutely contrary", "mostly contrary", "hesitant", "mostly convenient" and "absolutely convenient". Some items are reverse coded in calculation of total scores. Possible lowest score is 20 and highest score is 100 points (Dökmen 1988).

Instrument for Attitudes Towards Communication in Medicine (IATCM): This scale was developed by the authors of this study in order to evaluate attitudes towards communication. It is a Likert type self-report scale consisting 8 items. Each item is scored between 1-5 according to answers as "I am absolutely against", "I do not think so", "I do not have any idea", "I think so" and "I have just the same idea". Some items are reverse coded in calculation of total scores. Possible lowest score is 8 and highest score is 40 points. When relatively low number of items is taken into consideration, internal consistency of the scale ( $\alpha=0.77$ ) is adequate (Nunnally and Bernstein 1994). Item-total correlations vary between 0.25 and 0.65 (Table 1).

### **Procedure**

First, the quality and necessity of the study was described to students who were present in the class and later ETS and IATCM scales were administered. Five months later at the last lesson, same instruments were administered to students who were present in the class. Training of communication skills included totally 30 hours; 8 hours in the first three committees and 6 hours in the fourth committee. These lessons were arranged as interactive presentations, exercises, role plays and dual practices. At last three lessons, following a presentation about empathy, the students performed an exerci-

**TABLE 1.** Instrument for Attitudes Towards Communication in Medicine

There are some expressions about patient-physician relationship below. Following reading each expression, check suitable choice on the scale.

1. I am absolutely against
2. I do not think so
3. I do not have any idea
4. I think so
5. I have just the same idea

1	I believe that to be in a good communication with the patient is the keystone of success in medicine.	1	2	3	4	5
2	I think communication skills of a physician are important.	1	2	3	4	5
3	Communication style of a physician does not have any influence on the treatment, appropriate diagnosis, but medication choices are more important.	1	2	3	4	5
4	Patient's trust on physician and thoughts about to be understood are very important in treatment.	1	2	3	4	5
5	Patient-physician communication is not important in determining true complaint of the patient.	1	2	3	4	5
6	Better understanding psychosocial condition of the patient does not have any positive influence on treatment.	1	2	3	4	5
7	I do not think there is any need for communication skills education in medical faculties.	1	2	3	4	5
8	I think communication is not a learnable skill.	1	2	3	4	5

se of developing an empathic reaction. Later, they watched a video show which lasted for about 5 minutes and reflecting conflicting and empathy-free relations between three students of whom one was from medical school. Then the students formed groups consisting three of them each and asked to prepare conversation texts which aimed to reveal empathic reactions. During this preparation procedure, information about empathy provided by authors of this article and an education guide about communication skills were used. Students prepared their conversation texts with the help of these empathy guides, then presented them to educational staff and other students, and received feedback.

### Statistical Analysis

Data were analyzed with SPSS 10.0 software. While internal consistency calculations and pre-test correlations were performed with 62 participants, K-means group analysis, comparison of pre- and post-tests, post-test correlations and analysis of variances between groups were performed with 36 participants. The significance of the difference between mean pre- and post-test ETS and IATCM scores was evaluated with *t* test. Comparisons between groups were evaluated with non-parametric Mann-Whitney U test because of the decrease in the number of participants.

## FINDINGS

### Differences and intersections between groups before training

In order to determine whether the students formed a homogenous group according to communication skills and their attitudes K-mean group analyses were performed. Both ETS and IATCM scores were included as independent variables in-group analyses and the group was divided into two separate subgroups. Total numbers and percentages of students in both groups are presented in Table 2. The differences between ETS scores high and low groups ( $z=-3.9$ ,  $p<0.000$ ) and mean scores of IATCM points positive and negative groups ( $z=-2.46$ ,  $p<0.000$ ) were statistically significant in post-training measurements.

When intersection between empathic tendency low and high groups and attitude towards communication in medicine positive and negative groups was considered, it was found that of 16 students whose attitude was negative 14 students (87.5%) were in low and two students (12.2%) were in high empathy group. Of 20 students whose attitude was positive 13 students (65%) were in low and 7 students (35%) were in high empathy group (Figure 1).

### Comparisons of pre- and post-test findings

As shown in Table 2, differences between pre- and post-test means of student groups after ETS and IATCM administration were not statistically

**TABLE 2.** Percentages, mean points and pre- and post-test comparisons of the groups

	% (n)	Pre-test mean	Post-test mean	t/z	s.d.	p
Empathy Tendency Participants		67.8 (ss=9.5)	69.6 (ss=8.8)	0.68	35	0.18
High empathy group	25 (9)	81,1 (ss=1.8)	79,2 (ss=3.6)	-1.85		0.06
Low empathy group	75 (27)	63,4 (ss=6.4)	66,4 (ss=7.7)	-1.68		0.09
Attitude Participants		35.6 (ss=4.0)	35.1 (ss=4.7)	-1.36	35	0.50
Positive attitude group	56 (20)	37,3 (ss=4.6)	36,8 (ss=3.5)	-0.67		0.51
Negative attitude group	44 (16)	33,6 (ss=1.6)	32,8 (ss=5.2)	-0.70		0.48

significant. Nonetheless, the difference between pre- and post-test means of empathy low and high groups showed a tendency towards change despite this difference was not statistically significant ( $p < 0.10$ ). This change was in negative direction in empathy high group and positive direction in empathy low group.

ETS and IATCM scores did not differ according to gender, age and socio-economic status. The groups were similar according to these variables as well.

### Correlations between scales

The correlation between pre-test ETS and IATCM scores was calculated to be  $r=0.34$ . This correlation coefficient was significant at 0.05 level. The correlation between post-test scores was calculated as  $r=0.32$ . Significance value for this calculation was just above 0.05 level ( $p < 0.057$ ).

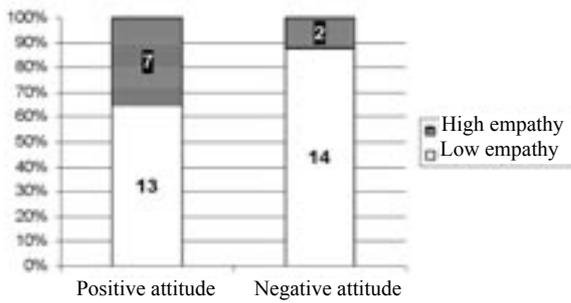
## DISCUSSION

In this study, findings from group analyses revealed that students of Adnan Menderes University Medical School did not form a homogenous group according to their attitudes towards communication skills and empathic tendencies at the beginning of medical education. One of the primary objectives of education in first grade was to lessen presumptive differences between students in attitudes and interpersonal communication skills and try equalizing the benefit which would be received from following training periods. Results of the study supported the presumption about there would be individual differences among students for

attitudes and interpersonal communication skills. Both groups according to attitudes towards communication skills were nearly equal. At the beginning of the education, 20 students (56%) reported positive attitudes towards communication and 16 students (44%) reported negative attitudes. Rosenthal and Ogden reported that 89.3% of first grade students who agreed participation reported the importance of communication skills training (1998). But, this higher-level of agreement indicates only responses to a single statement "communication skills should be emphasized more". This ratio might be expected to be lower in scales like our instruments that included more complex and detailed expressions. Moreover, our study group did not only include students who gave consent to participate, but 95% of students who were present in the classroom were included. Relatively higher level of negative attitude might be a consequence of this inclusion pattern. According to empathic tendencies,  $\frac{3}{4}$  of students formed a group and  $\frac{1}{4}$  of them formed another. At the beginning, 27 students (75%) had low and 9 students (25%) had high empathy scores.

In studies evaluating the place of communication skills in medical training, empathic tendency and attitudes towards communication were taken separately and the possible relation between them was not questioned. In our study, we investigated the relation between empathy tendency and attitudes towards communication and found that 65% of students with positive attitude were in low empathy group and this value increased to 87.5% in negative attitude group. On the other hand, 35% of students with positive attitude were in high

**FIGURE 1.** Empathy tendencies of students according to attitudes towards communication (n=36).



empathy group, whereas this value decreased to 12.2% in negative attitude group. These ratios revealed that low empathy level was more and high empathy level was less in negative attitude group versus students with positive attitude.

The measurements demonstrated significant differences before and after training between both negative-positive attitude and high-low empathy groups. This result was interpreted as the inadequacy of education in the first year of medical education in reaching the objective of equalizing the benefit which would be received from following training periods. When in-group changes before and after training was taken into consideration, none of the mean scores differed significantly from one another, but it might be said that empathy level was more sensitive to change. These changes were towards decrease in high empathy group and increase in low empathy group. As low empathy group formed the biggest portion of students (75%), increasing effectiveness of education with some reviews might be considered. Moreover, this tendency may reach statistically significance level in a larger sample size. Empathy levels after education increased in some recent studies and decreased in others (Hojat et al. 2002, 2004). In a study which evaluated whether empathy levels of first grade students increased or not, it was found that empathy levels changed in many of them after education, but no increase in expressing empathy was present in 30% of them (Winefeld and Chur-Hansen 2000).

A shift towards negative attitude towards communication may be expected in medical students as they are not used to deal with social sciences. But our results did not show such a negative change in attitudes. Rees and Sheard reported lower levels of positive attitude in first grade students from Not-

tingham and Leicester Universities after education for communication skills (2003). Some variables like training techniques and methods which tend to change from experiential to didactic style, time period spared and teacher characteristics result with different levels of changes in information, skills and attitudes. Our findings demonstrated that attitude changes towards communication were not adequate, but greater number of students who had lower empathy levels was more prone to change after education. It was reported that to change and measure attitudes was more difficult than to develop and measure skills (Turgut 1997). Performance of empathy education by means of role-play method might provide additional benefit in our study. Our empathy education and measurement methods might be thought to be taken into consideration by trainers and trainees in psychiatry and other related psychological fields.

There were some reports about gender differences in negative attitudes against communication (Batenburg and Smal 1997, Rees and Sheard 2002). Batenburg and Smal reported lesser levels of negative attitude in females both before and after education (1997). Rees and Sheard reported similar results in their study with first grade students like our group (2002). In another study with third grade students higher empathy scores were found to be related to female gender (Hojat et al. 2002). But in our study, there was not any difference between genders or age groups according to ETS and IATCM scores. Relatively small number of our participants might obscure possible differences and lead to type II error.

Studies like this one include methodological limitations. Relatively low level accessibility to all students at the last test form major limitations of our study. Majority of participants in second test were females by chance (65.7%). When observation of Hojat and colleagues (2004) as empathy points of third grade students decreased after education is taken into consideration, it may be concluded that both the same group during education period and all students from different grades at the same time should be evaluated. Moreover, comparison of students from different college programs with or without communication skills training may provide additional benefit. Differences between pre- and post-test designs may be a consequence of causes other than communication skills training. In order to prevent this problem, controlled trial

without selection should be performed.

ETS is a valid and reliable instrument, but it should be remembered that it was not developed to measure educational gain. Moreover, the validity study of IATCM is lacking despite its well known reliability in terms of internal consistency.

This is the first study reporting data about the efficiency of education for communication skills

## REFERENCES

AAMC. (1998) Learning Objectives for Medical Student Education: Guidelines for Medical Schools, <http://www.aamc.org/meded/msop/start.htm>.

Aspergen K. (1999) BEME Guide No. 2: Teaching and learning communication skills in medicine, *Medical Teacher*, 21(6): 563-570.

Batenburg V and Smal JA (1997) Does a communication skills course influence medical students' attitudes? *Medical Teacher*, 19: 263-69.

Dereboy İF, Gürel M, Erpek S, Savk Ö. (2001) Tıp Eğitiminde Tam Entegrasyona Doğru: Menderes Deneyimi. *Toplum ve Hekim*, 16:194-204.

Dökmen Ü. (1999) İletişim Çatışmaları ve Empati, Sistem Yayıncılık, İstanbul.

Dökmen, Ü. (1988) Empatinin Bir Modele Dayandırılarak Ölçülmesi ve Psikodrama ile Geliştirilmesi. *A.Ü. Eğitim Bilimleri Fakültesi Dergisi*, 6 (21):155-190.

Egan G. (1998) *The Skilled Helper; A Problem-Management Approach to Helping*, 6.baskı, Brooks/Cole Publishing Company.

General Medical Council (1993) *Tomorrow's Doctors: Recommendations on undergraduate medical education*.

Hargie O, Dickson D, Boohan M et al. (1998) A survey of communication skills training in UK schools of medicine: present practices and prospective proposals. *Med Educ*, 32(1):25-34.

Harrison A, Glasgow N (1996) Communication skills training early in the medical curriculum: UAE experience. *Medical Teacher*; 18(1): 35-44.

Hojat M, Gonnella JS, Mangione S et al. (2002) Empathy in medical students as related to academic performance, clinical competence and gender. *Med Educ*, 36 (6): 522-7.

Hojat M, Veloski JJ, Borenstein BD (1986) Components of clinical competence of physicians: an empirical approach. *Educational Psychol Measurement*, 46: 761-9.

Hojat M, Mangione S, Nasca TJ ve ark. (2004) An empirical study of decline in empathy in medical school, *Med Educ*, 38: 934-41.

Ludmerer KM (1999) *Time to Heal*. New York Oxford University Press.

in students of medical schools in Turkey. Results give the impression that empathic tendency may be increased with appropriate educational methods. It may be concluded that dependence of educational programs and methods to experiential learning principles will lead to adequate clinical results, more healthy people and better satisfied physicians.

Makoul G (2003) Communication skills education in medical school and beyond. *JAMA* 289(1): 293.

Nunnally JC, Bernstein IP (1994) *Psychometric Theory*, 3. baskı. New York: Mc Graw Hill.

Rees C and Sheard C (2002) The relationship between medical students' attitudes towards communication skills learning and their demographic and education related characteristics *Med Educ*, 36: 1017-27

Rees C ve Sheard C (2003) Evaluating first year medical students' attitudes to learning communication skills before and after a communication skills course *Medical Teacher*, 25: 302-307.

Rosenthal J, Ogden J (1998) Changes in medical education: The beliefs of medical students. *Med Educ*, 32: 127-32.

Sarıkaya Ö, Uzuner A, Gülpınar MA et al. (2004) İletişim becerileri eğitimi: İçerik ve değerlendirme. *Tıp Eğitimi Dünyası*, 14: 28-37.

Sayek İ, Kılıç B (2000) MÖTER: Mezuniyet Öncesi Tıp Eğitimi Raporu, Türk Tabipleri Birliği.

Starr P (1982) *The Social Transformation of American Medicine*, New York: Basic Books.

General Medical Council (2003) *Tomorrow's Doctors: Recommendations on undergraduate medical Education*, General Medical Council, London.

Turgut MF (1997) *Eğitimde Ölçme ve Değerlendirme Metodları*, 10.baskı, Ankara: Gül yay.

Van Dalen J, Bartholomeus P, Kerkhofs E, et al. (2001) Teaching and Assessing communication skills in Maastricht: The first twenty years. *Medical Teacher*, 23(3): 245-251.

Van Dalen J, VanHout JCHM, Scherpbier AJJA ve ark. (1999) Factors influencing the effectiveness of communication skills training: Programme contents outweigh teacher's skills. *Medical Teacher*, 21:308-11.

Wilkes M, Milgrom E, Hoffman JR (2002) Toward more empathic students. *Medical Education*, 36: 528-33.

Winefeld Chur-Hansen (2000) Evaluating the outcome of communication skill teaching for entry-level medical students: does knowledge of empathy increase? *Med Educ*, 34(2):90-4.