Evaluation of Student Empathy Level During the First Five Years of Medical Education at Ankara University

Ankara Üniversitesi Tıp Fakültesi İlk Beş Dönem Öğrencilerinin Empati Düzeyinin Değerlendirilmesi

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ABSTRACT

Empathy is an important attribute in the physician-patient relationship and promotes patient and physician satisfaction. It must be taught and promoted during medical education. However, many of the studies about empathy show that empathy declines during medical school education as the year of study increases. The aim of this study was to measure and examine the levels of student empathy during medical education at Ankara University School of Medicine. Study participants were all medical students from the first to the fifth year of the program and the 'Student Version (S-Version) of Jefferson Scale of Physician Empathy' (JSPE-S) was used to measure the level of student empathy. The study utilized a cross-sectional design and sub-scale scores were analyzed in terms of gender and year of study. Mann-Whitney U test and Kruskal-Wallis variance analysis were used to compare the sub-scale scores in terms of gender and year, respectively.

The results showed that the second year students' JSPE-S scores were significantly high for "perspective taking" and "compassionate care" whereas the third year students' JSPE-S scores were significantly low for the three sub-scales (p<0.001). Additionally, the scores of internship time decreased gradually as the year of study increased. Females' JSPE-S scores were significantly higher for "perspective taking" and "compassionate care" (p<0.001). In this study, the students' empathy levels were examined with a self-report scale. The results indicated that medical student empathy declines as the year of study gets higher. More studies are needed to determine whether the decline in empathy scores are due to cohort effects or to the changes occurring during medical education.

Keywords: Empathy, Undergraduate Medical Education, Medical Students, Communication Skills.

ÖZ

Empati, hasta-hekim ilişkisinde önemli bir beceri olup hasta ve hekim memnuniyetini arttırır. Empati, tıp eğitimi sürecinde öğretilmeli ve geliştirilmelidir, fakat yapılan birçok çalışmada sınıf düzeyi arttıkça düştüğü gösterilmiştir. Bu çalışmanın amacı, Ankara Üniversitesi Tıp Fakültesi'nde tıp eğitimi boyunca öğrenci empati düzeylerinin ölçülmesi ve değerlendirilmesidir. Çalışmaya 1. sınıftan 5. sınıfa kadar tüm sınıflardaki tıp öğrencileri katılmıştır ve öğrenci empati düzeyini ölçmek için 'Jefferson Doktor Empati Ölçeği'nin öğrenci versiyonu kullanılmıştır. Kesitsel olarak planlanmış olan bu çalışmada alt-ölçek puanları eğitim yıllarına ve cinsiyete göre karşılaştırılmıştır. Cinsiyete göre farklılıklar Mann-Whitney U testi ile, eğitim yıllarına göre farklılıklar da Kruskal-Wallis varyans analizi ile değerlendirilmiştir. Elde

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edilen sonuçlara göre 2. sınıfların "perspektif alma" ve "şefkatli bakım" puanları anlamlı olarak yüksek iken, 3. sınıf puanları her üç alt ölçek için anlamlı düzeyde düşük bulunmuştur (p<0.001). Stajlar esnasındaki puanlar da sınıf ilerledikçe düşüş göstermiştir. "Perspektif alma" ve "şefkatli bakım" puanları, kız öğrenciler arasında anlamlı derecede daha yüksektir (p<0.001). Bu çalışmada tıp fakültesi öğrencilerinin empati düzeyleri, kendi kendini değerlendirme ölçeği ile değerlendirilmiştir. Sonuçlara göre empati düzeyi sınıf düzeyi arttıkça düşmektedir. Bu düşüşün nedeninin kohort etkisine mi yoksa tıp eğitimi sürecindeki değişimlere mi bağlı olduğunu anlamak için daha fazla sayıda çalışmanın yapılması gerekmektedir.

Anahtar Sözcükler: Empati, Mezuniyet öncesi eğitim, Tıp öğrencileri, İletişim becerileri

INTRODUCTION

Basic element of physician-patient relationship is effective communication which includes expressions of empathy, effective questioning, transmission of information, and participatory decision-making. Empathy is an affective and cognitive attribute that involves an ability to understand the patient's perspective, reactions, thoughts, feelings or inner experiences and followed by a behavioral demonstration of that understanding back to the patient or a capability to communicate with this understanding (Hojat et al., 2002; Larson & Yao 2005; Neumann et al., 2009). Patients, who feel listened to and understood, trust their doctors and fully explain their symptoms. By improving the quality of data obtained from the patient, empathy promotes patient (Zolnierek and DiMatteo2009) and physician satisfaction (Larson and Yao 2005; Shapiro 2002), and the physician's diagnostic ability. Empathy enables the clinician to fulfill key medical tasks more accurately, thereby enhances patient health outcomes, and it is a fundamental determinant of quality in medical care (Neumann et al., 2009).

As physician empathy is a particularly effective therapeutic element of physician-patient communication (Neumann et al., 2011), it is important for doctors to learn communication skills effectively. There is a growing acceptance of the need to teach and assess communication skills in medical schools, and many medical schools have developed a variety of methods for teaching and assessing communication skills. The prevalent training strategies within these programmes include role-play, feedback, and small group discussions (Berkhof et al., 2011). Educators used lectures, small group workshops, audiotapes or videotapes to teach communication skills intended to convey empathy; or employed theater, literature (Boker et al., 2004) and writing as educational strategies to foster medical student empathy (Stepien & Baernstein 2006). Interventions used to teach empathy to medical students include: patient narrative (Charon, 2004) and creative arts, reflective writing (DasGupta and Charon 2004; Chen and Forbes 2014), drama, communication skills training, problem-based learning, inter-professional skills training, patient interviews, experimental learning, simulated medical consultations using standardized patients (Schweller et al., 2014) and empathy focused training (Hojat et al., 2013; Batt Rawden et al., 2013).

Ankara University School of Medicine's curriculum runs a 6-year program, comprised of 3 years of preclinical work followed by 3 years of clinical work (2 years of clerkships and one year internship). In this curriculum, communication skills trai-

ning program is promoted in the 2nd and 3rd years. Its purpose is basic communication skills in second year and patient-doctor communication and using no-lose conflict resolution method in third year. The learning objectives of the program include the importance of communication in patient-doctor relationship, greeting and introduction, non-verbal attentiveness, empathy-active listening, I-messages, giving and taking feedback, and conflict resolution. In both years the main, emphasized purpose is to understand the patients' conditions and feelings and then to reflect this understanding back to the patient. Small group interactive teaching, role-play, and tape-recorded standardized patient (SP) interview in a simulated environment are used. SP interview scenarios are about a patient with an emotional strain, and the students are expected to understand the patient's perspective. This training program might be the reason for the increased empathy scores in second year.

Many of the studies about empathy show that empathy declines during medical school (Hojat et al., 2004; Stepien & Baernstein 2006; Chen et al., 2007; Newton et al.,2008; Fernandez Olano et al., 2008; Lim et al., 2011; Neumann et al., 2011; Van Winkle et al., 2012; Chen et al., 2012; Shariat & Habibi 2013). Unsuitable learning environments, cynicism/loss of idealism (Hojat et al., 2004; Newton et al., 2008), distress (Neumann et al., 2011), hidden curriculum (Eikeland et al., 2014), negative role-models, a high volume of materials to learn, time pressure, patient factors and overreliance on computer-based diagnostic and therapeutic technology (Hojat et al., 2009) can affect the students and cause a decline in empathy. However, in one longitudinal study (Quince et al., 2011), no significant change was observed, and in some cross-sectional studies greater levels of empathy were observed in medical students in their final year (Kataoka et al., 2009; Roh et al., 2010; Magalhães et al., 2011).

The aim of this study was to measure and examine student empathy across medical years in Ankara University School of Medicine.

METHODS

Participants

Study participants were medical students in Ankara University School of Medicine, from first through fifth year (sixth year is internship) during 2013-2014. A total of 1257 students (53.7% female, 46.3% male) represent around 73.5%of the total number of students in the five classes. Response rates varied from 50.7% to 91.4% in years. The number and percentages of the students over years are shown in Table 1.

Measurement of Empathy

In this study, the student version (S-Version) of Jefferson Scale of Physician Empathy (JSPE-S) was used to measure student empathy, which was developed to measure medical students' attitudes toward empathic physician-patient engagement in the context of patient care (Hojat et al., 2001; Hojat et al., 2002). The JSPE is an extensively used, researched and validated instrument in medical education research (Hojat et al., 2013). The scale includes 20 items (10 items positively worded and 10 items negatively worded) answered on a 7-point Likert scale from 1 (strongly disagree) to 7 (strongly agree), and higher scores show higher empathic consistency. Psychometric properties of the Turkish adaptation of the scale have been previously reported (Gönüllü & Öztuna, 2012). The scale has three subscales: "perspective taking", "compassionate care" and "standing in the patient's shoes".

Procedure

This study utilized a cross-sectional, descriptive design. It was approved by the University's Research Ethics Committee. The students voluntarily completed the Turkish JSPE-S and were not compensated for their participation. JSPE-S was given to the first, second and third year students during their clinical skills lab sessions, fourth and fifth year students during their clerkship classes.

Mann-Whitney U test was used to compare the sub-scale scores in terms of gender. Kruskal-Wallis variance analysis was used to compare the sub-scale scores in terms of year and the post-hoc test for Kruskal-Wallis variance analysis was used to perform pair wise comparisons. Mean, standard deviation (SD) [median (minimum-maximum)] was used as descriptive statistics. $p < 0.05$ was considered as statistically significant.

RESULTS

When the sub-scale scores were assessed in terms of gender, the empathy scores for each subscale were higher in females.

However, we found that there were statistically significant differences for only "perspective taking" and "compassionate care" scores (Table 2).

Also, there were statistically significant year differences for each sub-scale (Table 3). Post-hoc tests showed that; for "perspective taking", there were differences between 1st vs (2nd, 4th, 5th), 2nd vs (3rd, 4th, 5th) and 3rd vs 5th years, for "compassionate care" there were differences between 1st vs (2nd, 5th), 2nd vs (3rd, 4th, 5th), 3rd vs 5th, 4th vs 5th years, and for "standing in the patient's shoes" there were differences between 3rd vs (1st, 2nd, 5th) years. While the highest score was observed in the 2nd year, the lowest one was observed in the 5th year for "perspective taking" and "compassionate care" subscales. The highest and the lowest "standing in the patient's shoes" subscale score were obtained in the 5th and 3rd years, respectively.

DISCUSSION

Empathy is an important skill in the physician-patient relationship and has a promoting effect on both patient and physician satisfaction. Thus, improving student empathy is one of the important tasks of medical education.

Medical students' empathy can be affected by socio-cultural factors, socio-cultural environment of the medical school and medical education curricula. It is known that cross-cultural differences in norms, ethnicity, religious beliefs and sex stereotyping can influence empathic engagement during clinical encounters (Hojat, 2007). It has been suggested that cultures of the individual medical college can also influence the empathy of their medical students (West & Shanafelt 2007). Gender and year differences on student empathy are commonly studied factors in literature.

According to Costa et al., (2014) agreeableness and openness to experience and the empathy of medical students made a significant contribution to identify the more empathic students. Therefore, medical schools may need to pay attention

Table 1: Demographics and Characteristics of the Classes

Year	Number of Students	Number of Responders (Percent)	Percent of Class Surveyed
1	488	446 (35.5)	0.91
2	342	242 (19.3)	0.71
3	342	280 (22.3)	0.82
4	304	154 (12.3)	0.51
5	233	135 (10.7)	0.58

Table 2: The Gender Differences for the Sub-Scale Scores of JSPE-S

Gender	Perspective Taking*	Compassionate Care*	Standing in the Patient's Shoes**
Female	5.65±0.91 [5.80(1-7)]	5.97±0.84 [6.14(1-7)]	4.18±1.32 [4 (1-7)]
Male	5.36±0.98 [5.50(1-7)]	5.60±0.96 [5.71(1-7)]	4.10±1.41 [4 (1-7)]

* $p < 0.001$, ** $p = 0.299$.

Table 3: The Year Differences for the Sub-Scale Scores of JSPE-S

Year	Perspective Taking[*]	Compassionate Care[*]	Standing in the Patient's Shoes[**]
1	5.52±0.94 [5.70(1-7)]	5.77±0.89 [6 (1-7)]	4.22±1.27 [4 (1-7)]
2	5.82±0.89 [5.90 (2-7)]	6.05±0.87 [6.29(1-7)]	4.27±1.42 [4.5 (1-7)]
3	5.46±0.90 [5.6 (1-7)]	5.72±1 [5.86 (1-7)]	3.86±1.35 [4 (1-7)]
4	5.37±1.02 [5.5 (2-7)]	5.79±0.95 [5.93 (2-7)]	4.11±1.42 [4 (1-7)]
5	5.26±1 [5.40 (2-7)]	5.64±0.76 [5.71 (3-7)]	4.29±1.42 [4 (1-7)]

[*] *p<0.001,* [**]*p=0.001.*

to the personality of medical students to understand how to enhance the empathy of medical students in undergraduate medical education (Magalhães et al., 2012).

Our study showed that female students scored significantly higher than male students for each subscale of JSPE-S. The same results were found by Shariat and Habibi (2013), their study also showed that the female group scored significantly higher on "perspective taking" and "compassionate care" but the difference was not significant on "standing in the patients' shoes". The gender difference in empathy has been attributed to intrinsic factors (e.g., evolutionary-biological gender characteristics) as well as extrinsic factors (e.g., interpersonal style in caring, socialization, and gender role expectation) (Hojat et al., 2002). Several studies have suggested that female medical students (Hojat et al., 2002; Chen et al., 2007;Hojat et al., 2009; Kataoka et al., 2009; Shariat and Habibi 2013; Wen et al., 2013) gain a higher score of empathy, possibly because they tend to value interpersonal relationships highly and have more competent understanding of emotions and caring attitude. On the other hand, few studies have shown no gender difference in empathy (Roh et al.2010; Hamed et al., 2015).

Previous studies showed that beside the decline of student empathy during their medical school years (Hojat et al., 2004; Chen et al., 2012; Shariat and Habibi 2013), greater levels of empathy has been also demonstrated in medical students in their final years (Kataoka et al., 2009; Roh et al., 2010; Magalhães et al., 2011). So, there is a need to study changes in student empathy during medical education and find out the reasons that affect the medical students' visions of the importance of human interactions and empathy in patient encounters.

In our cross-sectional study, there were statistically significant year differences for "perspective taking", "compassionate care" and "standing in the patient's shoes" subscale scores of JSPE-S. While the highest score was observed in the 2nd year, the lowest one was observed in the 5th year for "perspective taking" and "compassionate care" subscales. The highest and the lowest "standing in the patient's shoes" subscale score were obtained in the 5th and 3rd years, respectively.

Possible explanation for the highest score observed for "perspective taking" and "compassionate care" subscales might be communication skills training program given in the 2nd year. There are many studies that shows empathy can be enhanced by effective educational strategies, targeted educational programs, or medical consultations with SPs (Aspegren, 1999; Winefield and Chur-Hansen, 2000; Stepien and Baernstein 2006; Fernandez Olano et al., 2008; Batt Rawden et al, 2013; Hojat et al.,2013; Kelm et al., 2014; Schweller et al., 2014; Williams et al.; 2015). Williams et al. (2015) has shown that self-reported empathy levels have been shown to improve following DVD simulation-based workshops.

For the corresponding subscales, our results are consistent with previous studies, showed that empathy scores decreased gradually through the clerkships. The role acquisition process, the psycho-social dimensions of care, interactions with patients in medical practice, and the strong emphasis on skills may alienate the students from their own feelings and experiences. Also, most of the researchers agree that on entering the clinical practice phase of training, and with increased contact with patients, empathy declines significantly (Neumann et al., 2011). Shariat and Habibi's (2013) study showed that the decline of empathy in medical education is not limited to medical schools in the Western world. The obtained lowest score should be related to not having a constructed communication skills training program during clerkships and internship in our school. According to Aspegren (1999) instructional methods do not give the desired results; therefore, communication skills can be taught in courses, but are easily forgotten if not maintained by practice. The students' active self-development through reflective practice helps emotional development and fosters empathy (Ahrweiler et al., 2014; Eikeland et al, 2014). Burks and Kobus (2012) agreed that training in mindfulness, self-reflection and emotion skills may help medical students and professionals to recognise, regulate and behaviourally demonstrate empathy within clinical and professional encounters. While developing communication skills training programs medical educators should add more practical and feasible emotional skills training and more reflective practices. We also need to put structured communication skills training prog-

rams, enriched with reflective interventions to the clerkships, in which the fourth and fifth year students can use these skills with the patients and learn from practice.

According to our study, the highest "standing in the patient's shoes" subscale score was found among 5th year students. Because of the context of this subscale which represents understanding the patient's perspective and the fact that students interact with the real patients during clerkships in many times, made this result meaningful. Although they examine the overall empathy levels, in some cross-sectional studies greater levels of empathy were observed in medical students in their final year (Kataoka et al., 2009; Roh et al., 2010; Magalhães et al., 2011).

Even though there is a constructed communication skills training program in the 3rd year, same as 2nd year, JSPE subscale scores of the 3rd year students were lower compared to those of 2nd year students. Profound changes on the communication skills training program given in the 3rd year such as adding new interventions like reflective writing sections which affords students an opportunity to describe and share their or others illness experiences and lead to more empathic and self-aware practice (Das Gupta and Charon 2004) might affect the empathy levels of students positively.

Our study has several limitations. First of all it is limited by the lack of long–term follow up study. A longitudinal study should be done to determine the decline in empathy scores among the classes. The study focused only on self-reported empathy, disregarding the assessment of behaviours. Another limitation is that we could not reach the sixth year students as their educations are practice based and they are allocated all over the clinics. Also as the years get higher the number of the students we could reach lower (Table 1); however, we might reach more student in clerkships.

CONCLUSION

Empathy which has clear benefits for the patient and the physician is important in the physician–patient relationship. Further studies should be done to find out the reasons that affect the medical students' empathy in patient encounters. In this study student empathy was examined by a self-reported scale and gender/year differences were evaluated. While there were gender differences with higher scores of females, the year differences declined as the years got higher. Efforts are needed to determine the reasons of the decline in empathy scores among the classes. Follow-up studies of cohorts of medical students with well-designed qualitative and quantitative studies as well as an interdisciplinary research approach may help to find the reasons of this decline. During curriculum development of medical schools, medical educators should focus on communication skills which involve emotional skills training and reflective practices. In order to improve communication skills, communication training programs must be continuous and maintained by practice during medical education.

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