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Empathic Communication and Essential Instruction for Medical Students

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ABSTRACT

Patient-physician communication is an essential part of clinical practice that if it works well, it creates a therapeutic effect for patients. We aimed to evaluate and investigate if gender, age, grade, marriage and specialized field affected empathy scores among trainees, interns and resident physicians. A cross-sectional survey was performed among a total of 215 medical students in practical stage and resident physicians in Iran/Arak University of Medical Sciences responded to the Jefferson Scale of Physician Empathy (JSPE) questionnaire over 6 months in 2016. In addition, the participants were anonymously monitored to assess actual empathy levels. 215 participants completed the JSPE questionnaire (mean age 27 ± 5.2 years, 94 43.7%] males). Analysis showed that students had lower mean empathy score (mean= 98.08) than other countries. Results confirmed that there is an association between empathy and gender and marriage ($p<0.05$).Females and married students showed higher levels of empathy than other participants. The empathy of participants in an observation condition was much lower than what they had stated. In our survey, medical students had significantly low empathy level; therefore cultural education and professionalism training is needed. Although treatment is more important than empathy, empathy has a therapeutic effect for patients.

Key words: Empathy, Medical Education, Professionalism Training.

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1. INTRODUCTION

Communication skills are considered as a major index of capability for medical students, residents and physicians (1). Empathy, the ability to identify another person's feelings and to view the world from their perspective, is considered to be associated with improved health outcomes (2). "Empathy" has been described as understanding the feelings and experiences of other people by putting oneself in their places. It is the basic component of treatment structure in patient-centered systems. It can also play an important role in medical skills (3). Several studies have shown that development of empathy and active patient participation have beneficial effects on treatment process and the rate of improvement exceeds (4-7). It is also important that good communication skill in physicians can help patients to convey information in the form of feelings. In everyday life, loner or shy people who cannot adequately express their feelings in words are misconceived by people around them. Thus, in actuality they feel empathy but unable to express it (8). Conversely, physicians who actually lack empathy may be able to create a worthy response because have strong communication skills and they understand how should respond in similar situation. It has been found that when these patients are in emotional states, usually results of medical treatment will be significantly better (8). In a systematic review concerning interventions to improve verbal communication between physicians and patients, recovery was reportedly increased in more than 50% of patients (9). One of the goals of communication skills is that each patient to be treated as a person, not as an illness, and needs to believe that the doctor understands the nonmedical aspects of the relationship with his or her (8). Indeed doctors acquire the quality of data by history-taking

and physical examination and also 60-80% of medical diagnoses and treatment decisions are based on the results of history-taking; hence it is important that patients' difficult feelings can be improved by using empathy in history- taking and increased levels of empathy can help in improving the diagnostic process (10, 11). Better empathy scores were associated with better ratings of clinical competence and female students. Numerous studies have shown that empathy increases physicians' job satisfaction and self-confidence and increasing empathy reduces medical complaints and malpractice claims (12, 13). It has been reported that poor physician–patient relationships are associated with more medical errors and medical student empathy declines during education but on other hand some studies reported no change (5, 14-17). This may associated with the use of unsuitable tools. The JSPE (Jefferson Scale of Physician Empathy) is undoubtedly the most widely used measure of empathy in the context of patient care and has been translated into 25 languages. Validity of the JSPE have evaluated and confirmed by many researchers (18, 19). The few articles that was consistent with our search criteria confirm that researchers must give equal attention to the premedical years and gain a deeper understanding of the future physicians. Teaching and learning empathy as a "deep acting" technique build a solid foundation for empathic interaction and give the tools to be effective communicators and also create more satisfying relationships with patients. This study performed in one of the busiest single hospitals in Iran so that students faced major problem*s* such as hard work and long hours, demanding work schedules including evening shift, night shift, rotating shifts, weariness and poor concentration to focus on a task. Therefore the present study designed to evaluate, compare the empathy scores and related factors in medical students and residents given the importance of empathy in the diagnosis, treatment, and prognosis of diseases and more empathy in successful cases.

2. MATERIALS AND METHODS

This cross-sectional study was performed comprising 215 medical students and residents in Valiasr Hospital (one of the busiest hospitals in Iran) who cooperated and completed the questionnaires. Informed consent from participants was obtained prior to the study by executer. The participants had an opportunity to ask their questions before signing the consent form. Participation in the survey was voluntary and informed consent was obtained from all individuals. We prevented respondents if they did not give consent. Also all procedures performed in the study involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards. The ethical committee of Arak University of medical sciences approved the study. Inclusion criteria include all the available residents and medical students from Iran/ Arak University of medical sciences; and students were excluded if they did not agree to contribute in the study. Using the JSPE, we measured the rate of empathy with patients among medical students. Additionally, demographic information was collected such as age, gender, level of education, marital status, and field of study; and then we reviewed empathy scores according to them. Misreported or incompletely filled questionnaires were discarded. The JSPE is a self-administrated 20-item scale questionnaire designed to measure empathy in the context of patient care and doctor-patient relationship (18). Each questionnaire takes 5 minutes to complete. Students estimate their level of empathy for each item on the JSPE from 1 (strongly disagree) to 7 (strongly agree), higher scores indicates greater empathy. The empathy score varied from a minimum of 20 to a maximum of 140. All questionnaires were distributed between all residents and medical students. Other questionnaire items were gender, age, grade (trainee, intern or resident), marriage (single or married) and specialized field (for residents). Completion and collection the questionnaires took about 6 months in 2016. In this study, an anonymous physician designated to evaluate and monitored participants' actual empathy at work and their levels of empathy. We selected 10 questions from the JSPE questionnaire that can be viewed by him (Questions: 1-2-4-5-7-8-12-14-16-18). It should be noted that in the study checklists lacked specific details of participants. The collated data were coded and entered into SPSS18 (SPSS Inc, Chicago, IL, USA) and $p<0.05$ was considered statistically significant. Calculating empathy scores were computed according to the algorithm provided by Jefferson Medical Center. Comparison of mean empathy scores were conducted by gender, marriage, grade and residents education fields. One-way ANOVA and Independent Samples T test were performed to examine relationships between mean scores. One Sample Kolmogorov-Smirnov test showed and confirmed the data were normally distributed. Reliability of the JSPE was measured using the Cronbach-alpha (alpha = 0.8) whereas there was an appropriate reliability (Cortina, 1993).

3. RESULTS AND DISCUSSION

A total of 238 patients received questionnaires; 215 returned completed surveys, representing a 90% response rate. In this study, the mean total score of empathy was seen 98.08±12.83; the lowest score was 63 while the best was 132. The majority of the participants (67.4%) agreed with the impact of the training classes on increasing empathy that it was determined by question 21 of the Jefferson questionnaire. The mean score of empathy for married participants (mean = 100.95) was significantly higher than for singles (mean = 96.32) ($p = 0.006$, $t_{(200)} = -2.7$). In addition, t-test showed a statistically significant difference between genders, which women's score was higher than men ($p = 0.02$, $t_{(213)} = 2.2$). Students over 25 years age group had a higher score but there was No

statistically significant compared with the under 25 years students ($p = 0.3$, $t_{(213)} = 0.95$). Analysis of variance test (ANOVA) showed that the differences between mean scores in three levels of medical education were Not statistically significant ($F = 0.38$, $p = 0.68$). The empathy profile of students across the three levels of medical training (trainees, interns, residents) is variable with the highest scores in residents (mean = 99.23) and the lowest scores among trainees (mean = 97.48). Totally, the results showed that empathy scores was higher in married, females, residents and specialists of anesthesiology and psychology, but only marriage and sex were statistically different ($p<0.05$) (Table 1).

Table 1. Comparison empathy scores by demographic information in medical students

Demographic information		Frequency (percent)	Mean score ± SD	p-value
Grade	trainees	98 (45.6%)	97.5± 13.6	
	Interns	52 (24.2%)	97.8±14.6	0.68
	Resident	65 (30.2%)	99.2 ± 9.8	
Sex	Male	94 (43.7%)	95.8 ± 12.9	0.02
	female	121 (56.3%)	99.8 ± 12.5	
Marriage	Single	133 (61.9%)	96.3 ± 13.7	0.006
	Married	82 (38.1%)	100.9 ± 10.8	
Age	Under 25 years	124 (57.7%)	97.4 ± 13.7	0.3
	Over 25 years	91 (41.3%)	99 ± 11.4	
Resident Field	Internal Medicine	16 (24.6%)	93.31±11.35	
	General Surgery	15 (23.1%)	98.53±8.65	
	Obstetrics & Gynecology	10 (15.4%)	102±9.95	
	Pediatrics	8 (12.3%)	100.62±6.43	
	Anesthesia	6 (9.2%)	107.83±9.78	0.06
	Infectious Diseases	3 (4.6%)	102.67±4.5	
	Psychiatric Diseases	2 (3.1%)	108±2.82	
	Emergency Medicine	3 (4.6%)	94±9.16	
	Neurosurgery	2 (3.1%)	100.5±3.53	

In the present study a comparison was performed between the results of participants' self-reported responses and anonymous monitoring of their actual empathy at work (Table 2).

Table 2. Comparison of students response to empathy questionnaire and supervisor's observed empathy score in Iran-Arak University of Medical Sciences

Questions		Agree	No Idea	Disagree	p-value
1. Physician information about patients feelings and their relatives has no effect on patient treatment	Physician	(28.4%)61	(12.1%)26	(59.5%)128	0.11
	Supervisor	(27%)58	(9.3%)20	(39.1%)84	
2. Understanding the feelings of the patients, so they feel better	Physician	(94.9%)204	(4.2%)9	(0.9%)2	0.001
	Supervisor	(55.8%)120	(15.3%)33	(4.2%)9	
4. Movement and appearance of patients as well as verbal communication with them, is an important factor in the relationship between patient and physician	Physician	(80.5%)173	(11.6%)25	(7.9%)17	0.002
	Supervisor	(50.2%)108	(14%)30	(11.2%)24	
5. Humor can leads to better outcomes	Physician	(63.3%)136	(19.5%)42	(17.2%)37	0.015
	Supervisor	(31.8%)82	(19.1%)41	(18.1%)39	
7. Attention to patients emotions isn't important during the interview & physical examination	Physician	(8.8%)19	(2.8%)6	(88.4%)190	0.037
	Supervisor	(9.3%)20	(5.6%)12	(60.5%)130	
8. Attention to the patients is a personal experience& has no treatment effect	Physician	(24.2%)52	(19.5%)42	(56.3%)121	0.128
	Supervisor	(23.3%)50	(14.9%)32	(37.2%)80	
12. Asking patients about their personal lives, does not help in understanding their physical problems	Physician	(18.1%)39	(11.6%)25	(70.2%)151	0.197
	Supervisor	(14.9%)32	(13%)28	(47.4%)102	
14. Emotions does not play a role in the treatment	Physician	(11.6%)25	(7.9%)17	(80.5%)173	0.02
	Supervisor	(12.6%)27	(10.2%)22	(52.6%)113	
16. Understanding his/her emotional states and their families is important components to communicate with patients	Physician	(75.8%)163	(11.6%)25	(12.6)27	0.001
	Supervisor	(37.2%)80	(21.4%)46	(16.7%)36	
18. Physicians should not let the emotional ties between the patient and his family, effect on their professional decisions	Physician	(9.87)189	(6.5%)14	(5.6%)12	0.052
	Supervisor	(70.7%)152	(2.8%)6	(1.9%)4	

From the perspective of anonymous observer, scores of six items in the questionnaire were significantly much lower than what was stated by the same participants including "Understanding the feelings of the patients. So, they feel better", "Movement and appearance of patients as well as verbal communication with them is an important factor in the relationship between patient and physician". "Humor can leads to better outcomes", "Understanding his/her emotional states and their families is important components to communicate with patients", "Emotions does not play a role in the treatment" and "Attention to patients emotions isn't important during the interview & physical examination" ($p<0.05$). However, other items were similar. In this study, we found interesting facts about empathy among medical students. The mean of the total empathy score was lower in comparison with findings in other studies (98.08). We found that empathy score increased in females and married students and also in students with higher educational levels. According to gender, the empathy score was higher in women than in men. Likewise, there was a significant difference in empathy scores between married and singles, which was in

favor of the married ($p = 0.006$, $t_{(200)} = -2.7$) over singles. The mean score of empathy for married participants was significantly higher than for singles. However a study in 2010 (20) showed no difference in empathy between married and single residents. In none of the countries, the relationship between empathy and marital status has been studied in medical students. But it seems that marriage is an effective factor on empathy score and there is a need for further investigation in this area. Among the surgical fields of study, residents of OB/GYN (Obstetrics and gynecology) had the highest level of empathy, given the higher levels of empathy in women (in Iran all obstetrics and gynecology residents are females). In Shariats' study (12) in nonsurgical fields, the psychology residents had the highest level of empathy. Empathy was lowest in internal medicine and emergency medicine residents, which might be due to the large number of critical patients they have to handle. In an age efficient comparison, the age variable divided into two groups (less than 25 years and more than 25 years), then they were compared and showed no significant differences between the two groups. This was consistent with results in other studies (12). We observed a significant difference in empathy scores between men and women, which women score was higher ($p = 0.02$, $t_{(213)} = 2.2$) than men and it was consistent with most other studies (3, 5, 13-17). Intrinsic factors (such as evolutionary-biological gender characteristics) and extrinsic factors (e.g. styles in interpersonal care, socialization, and gender role expectations) are important and affecting factors on gender difference in empathy. This definition has been admitted and supported in related articles (18, 21). Our study compared the mean empathy score of medical students among three levels of training, internship and residency. Our results demonstrate that empathy levels across all three levels is variable; residents have the highest scores (mean = 99.23) and the lowest scores belong to trainees and interns (mean = 97.48) but the differences were Not statistically significant ($p = 0.6$). Our study and previous studies conducted in Iran on dental students of the Isfahan Dental School (12) reported no significant change in empathy with increasing years of education. Studies in other countries showed medical students' empathy decreased with increasing years of education (19), while in other study, empathy increased among medical students when academic years increased (22). It seems that in Iranian medical students, education slightly increased the students' empathy. The main distinction between our study and other studies was performance of subtle control. After filling out the questionnaires, we anonymously monitored all participants while they were interacting with the patients. The observed empathy was much lower than what they stated on the 6 following items as "Understanding the feelings of the patients, so they feel better", "Movement and appearance of patients as well as verbal communication with them, is an important factor in the relationship between patient and physician" , "Humor can leads to better outcomes", "Attention to patients emotions isn't important during the interview & physical examination", "Emotions does not play a role in the treatment" and "Understanding his/her emotional states and their families is important components to communicate with patients". This finding emphasizes that we need to prepare a questionnaire tailored to the society's culture. On other hand, receiving treatment has a higher priority than empathy in large number of critically ill patients who admitted to the hospital. Therefore, it seems that in crowded areas, the Jefferson questionnaire is not a perfect tool to measure empathy or maybe we need to do some changes and make it more compatible with various conditions in hospital. In our study the mean empathy scores for medical students in three different medical school stages were 98.08±12.83. In several studies, empathy using the JSPE questionnaire was reported higher figures in medical students in the United States and other countries (9, 18, 23-27). Only two studies (3, 25) reported the lower average empathy score than ours. In dental students the lowest level of empathy was not expected because of the low stress and workload in the dental field. This might be due to the fact that the need to perform painful procedures makes dentists hide their feelings from patients. In the present study, it seems that the pressure of working in educational hospitals, the lack of adequate training on how to communicate with patients, long working hours, time pressure, social factors, and lack of suitable models has caused a drop in the empathy scores of clinical staff (6, 19, 26, 28). But the most important reason could be overcrowding in Valiasr hospital emergency department. Indeed, priority of treatment can disrupt and reduce empathy in medical students that is quite logical. As we can see in table 1, the empathy score in emergency medicine was lower than other medical specialties. On other hand, the positive response of participants about the need for educational seminars and how to develop empathy, indicates the importance of improving empathy to get an ideal medical practice. Educational seminars might be based on empathic listening and spending more time on empathic history taking. Indeed medical students not only should learn how to treat patients but also must learn how to communicate with patients (22). The main limitation of our study was lack of cooperation from a number of residents in some fields that seem to impede uncover statistically significant differences between various fields of study. In general, medical students had a low empathy score and this may be due to the problems in current medical education systems. Therefore, we need anxiety-reducing strategies in education, improve communication skills, and provide tools for standardized, workout in a safe environment to promote empathy in medical students.

4. CONCLUSION

Empathy is an important and essential factor that is effective on function of physicians and treatment outcome of patients. Due to the low empathy score in our review,

researchers must have enough attention to the empathy training as a tool to improve medical outcomes, further planning for future and more educational seminars to increase it. Indeed future physicians will need to be checked in terms of their academic competence and quality of their relationship contains their reason to act morally, listening to patients, and empathize with patients as wholesome persons, rather than seeing them as collections of genes, cells, and organs; and that we have much to learn about how to shape the physician workforce in premedical years. In addition to determine the cause of low empathy score further detailed studies is recommended.

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AUTHORS CONTRIBUTION

Ali Cyrus and Bahman Salehi planned and carried out the study. Bahman Sadeghi Sedeh edited the paper and Rana Vosoulie participated in the follow-up. Naziri Mahdyieh performed the statistical analysis and helped to draft the manuscript. All authors read and approved the final manuscript.

CONFLICT OF INTEREST

The authors declared no potential conflicts of interests with respect to the authorship and/or publication of this paper.

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