Level of Empathy among Medical Students in Kuwait University, Kuwait

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Abstract

Objectives: To evaluate the level of empathy among medical
students in Kuwait University Medical School and its associa-
tion with sociodemographic factors, stress levels and per-
sonality. *Subjects and Methods:* A cross-sectional survey of
264 medical students was conducted in the Faculty of Medi-
cine, Kuwait University. Empathy levels were measured us-
ing the Jefferson Scale, personality was assessed using the
Zuckerman-Kuhlman Personality Scale and the Perceived
Stress Scale was used to measure stress levels. Factors associ-
ated with empathy were evaluated using t test/ANOVA for
categorical variables and correlation for continuous predic-
tors. *Results:* Mean empathy score was 104.6 ± 16.3. Empa-
thy scores were significantly associated with gender, year of
study, mother's level of education, household income, satis-
factory relationship with the mother and stress levels. Male
medical students in their clinical years also had significantly
lower empathy levels. However, factors such as grade point
average, desired specialty, marital status of parents, father's
educational level and relationship with father were not sig-
nificantly ($p > 0.05$) associated with levels of empathy. Stress
scores were significantly and positively associated with em-
pathy ($r = 0.13$; $p = 0.041$). *Conclusion:* Medical students in
Kuwait University had low empathy level and this may be a
cause for concern; as such we suggest a possible inclusion of
emphasis on empathy in the curriculum.

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Introduction

Being a good doctor not only requires clinical skills,
but also a certain set of emotional skills, which entails em-
pathy [1]. Empathy is defined as the 'objective awareness
of and insight into the feeling, emotions and behaviour of
another person and their meaning and significance' [2].
Patients visiting hospitals are usually worried and ner-
vous and doctors should have a certain degree of empathy
to put these patients at ease [1]. Evidence suggests that
empathy is significantly associated with patient out-
comes, better compliance, improved satisfaction of clini-
cians and patients and reduction in medical-legal issues
or litigation [3]. Of all the elements involved in effective
communication, empathy seems to be the most powerful
yet is easily overlooked.

The Faculty of Medicine at Kuwait University is the
only medical college in Kuwait. The recently revised
7-year undergraduate medical curriculum involves a se-
ries of educational training sessions on communication

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skills and ethics, with the aim of developing a good patient-doctor relationship. Such training is expected to ensure that the graduates do not only acquire clinical skills but also an emotional capacity to feel what the patient is going through and to help make the patient feel more comfortable in worrisome settings. Previous studies have shown that gender, academic performance [4], relationship with mother and personality [5] affect the level of empathy of medical students. Equally important, Hojat et al. [6] showed that empathy among students had started to decline. Empathy among Kuwait University medical students has not been studied. Therefore the goal of this study was to determine the level of empathy among the medical students at various years of study and other factors that included demographics, personality type and stress levels.

Subjects and Methods

A cross-sectional survey of 264 medical students was conducted in the Faculty of Medicine at Kuwait University, Kuwait. The survey was conducted using a self-administered standardized questionnaire. The timetable for each year was obtained from the Administration Unit, and a time schedule was drawn for data collection from each batch of students. To ensure all students were approached and that they had sufficient time to complete the questionnaire, the students were approached at the beginning of their problem-based laboratory sessions as attendance was mandatory at these sessions. All participants were informed that participation was voluntary and anonymity was guaranteed. The participants were required to read and sign the consent form before completing the questionnaire. Though most participants preferred to hand in their questionnaires to us in person, a box was placed in the main lobby of the faculty to collect the questionnaires and guarantee the anonymity of the participants. A total of 479 medical students were approached of whom 270 agreed to participate, but only 264 students satisfied the inclusion criteria as described by Hojat et al. [6]. Questionnaires with more than 4 questions missing, representing more than 20% of the questionnaire, were discarded. This study was approved by the Joint Ethics Committee for the Protection of Human Subjects in research of the Health Science Center, Kuwait University.

To quantify the level of empathy, the main outcome variable, the Jefferson Scale of Physician Empathy (JSPE-S) medical student English version [6] was used. This consisted of 20 statements, and participants were asked to indicate whether they agreed or disagreed with each statement using a 7-point Likert Scale. Generally higher scores on this scale indicate higher level of empathy and vice versa. The JSPE-S has a high reliability as verified by the alpha coefficient of 0.89 for medical students.

The second part was for the evaluation of personality types, which is a cross-cultural shortened form of the Zuckerman-Kuhlman Personality Questionnaire, ZKPQ-50-CC [7]. This measures five different aspects of personality: aggression and hostility, impulsive sensation seeking, neuroticism and anxiety, activity, and sociability. Each dimension is composed of a set of 10 true-or-false questions calculated separately, amounting to a total of 50 questions. This tool is known to have a high validity and reliability and is acknowledged around the world [7]. Higher scores in the subscales correspond to a stronger acquisition of that trait in a continuous ascending fashion [7].

In the third part, the stress levels among students were measured using the Perceived Stress Scale 10-item version, PSS-10. This is composed of 10 items measuring the level of stress in general and how the student manages it. Again this scale is known to be reliable with an alpha coefficient of 0.78 and is moderately related to responses on other measures of perceived stress, therefore showing good construct validity [8]. The higher the score the more stress the student experienced and so demonstrates lack of control on external situations. The questionnaire also consisted of personal information such as the year of study, gender, preferred specialty, grade point average and parental sociodemographic information.

The data were entered and analysed using SPSS version 17 (SPSS Inc., Chicago, Ill., USA). The mean was computed for JSPE-S scores and the independent t test was used when comparing those factors with two levels, with ANOVA to compare those factors that had more than two levels computed. The Pearson correlation measures were computed between empathy, stress and personality scores. $p \leq 0.05$ was considered statistically significant.

Results

The overall response rate was 56% and the mean empathy score among the medical students was 104.6 ± 16.3. The distribution of sociodemographic factors along with the mean empathy scores in each stratum are given in table 1. The most striking and significant difference was between the male and female students; the mean score in males was 100.6 ± 18.5 and in females 107.1 ± 14.1 ($p \leq 0.003$). The empathy levels were also significantly different between the years of study. The 4th-year students scored the highest while the 2nd-year students scored the lowest ($p \leq 0.037$). Although in general the students who planned to specialize in neurology and surgery had lower scores of empathy level than those who planned to specialize in psychiatry, paediatrics and community-related areas, the difference was not statistically significant ($p = 0.511$).

Equally, the current grade point average of the students was not significantly associated with empathy levels ($p = 0.171$). Nonetheless, a statistically significant association was found between family income and empathy. Students with household incomes <KD 1,000 per month had lower empathy scores than those with higher income, as shown in table 1 ($p \leq 0.005$).

The relationships between empathy levels and parental characteristics are given in table 2. While no statistical relationship was found between empathy and marital status

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Table 1. Association between JSPE-S scores and socioeconomic characteristics of the students

	n (%)	Mean ± SD	p value
Gender			0.003
Male	96 (36.5)	100.6±18.5	
Female	167 (63.5)	107.1±14.1	
Year of study			0.037
2nd year	61 (23.1)	100.8±14.9	
3rd year	56 (21.2)	104.3±15.8	
4th year	44 (16.7)	110.9±13.1	
5th year	58 (22.0)	105.1±17.8	
6th year	45 (17.0)	103.4±17.8	
Current grade point average			0.171
<2.50	45 (17.4)	101.1±16.1	
2.50–2.99	112 (43.4)	107.0±14.8	
3.00–3.49	73 (28.3)	103.3±15.5	
3.50–4.00	28 (10.9)	103.8±23.4	
Desired specialty			0.511
Undecided	102 (38.8)	104.3±15.3	
Surgery, emergency	41 (15.5)	101.1±15.7	
Pediatrics	27 (10.3)	108.4±15.5	
Neurology	16 (6.1)	99.4±22.4	
General practice	13 (4.9)	105.6±17.5	
Psychiatry, community	12 (4.6)	107.9±16.9	
Plastic surgery	7 (2.7)	108.0±16.9	
Other	45 (17.1)	105.9±16.2	
Household income			0.005
≥KD 1,000	33 (12.7)	97.1±23.9	
KD 1,001–2,000	102 (39.2)	107.5±23.9	
>KD 2,000	125 (48.1)	104.0±15.9	

of the parents nor with the educational level of the father, a statistically significant association was found between empathy and the educational level of the mother, as shown in table 2 (p ≤ 0.018). Students whose mothers had not completed high school were found to have lower levels of empathy compared to students whose mothers were more educated. Also, students who were satisfied with their relationship with their mothers scored higher, on average, than those who were neutral or not satisfied (p value ≤0.005). No such association was found between satisfaction with the relationship with the father and empathy. Further, no significant association was found between empathy and personality dimensions measured using the ZKPQ Personality Scale. A trend towards a significant association was found between aggressiveness and empathy as students with aggressive personalities scored lower on the empathy scale than their counterparts. Stress levels were found to be significantly and positively associated with empathy as students with higher stress levels scored higher on the empathy scale (p ≤ 0.041).

Discussion

The mean empathy score that we found among medical students in Kuwait University was 104.6 on the JPSE-S scale and this is relatively lower than that of medical students in Western countries such as the USA [4, 9] and Europe [10]. However, our mean empathy score is comparable to that reported from Asian countries such as Japan [11], Korea [12] and Iran [13]. Hojat [14] hypothesized that the lower scores among the Asian medical students compared to their Western counterparts could be attributed to the differences in cultural and social factors between the West and the East.

In this study, the higher level of empathy among female students was consistent with other studies [4, 15]. The increasing empathy level with academic year, which peaked in the 4th year, followed by a slight drop in subsequent years was consistent with a study done in Korea [12], where they explained that this is a result of implementing ethics and communication skills training in the curriculum with the aim of improving the doctor-patient relationship in clinical practice [16]. The drop in empathy scores in the 6th year was possibly due to exhaustion and burnout [17]. Some researchers have attempted to explain the variability in empathy levels by pointing out those students in the clinical years, which in Kuwait starts from 5th year, start to rely on a problem-based approach when addressing a patient's complaint rather than resorting to a more humanistic interaction [18]. Other researchers have postulated that the lack of ethically competent role models among clinical tutors as well as being surrounded by unprofessionally behaving peers [19] could be attributed to such variability as they both affect empathy in a negative way. Another interesting explanation for this variability put forward by Brazeau et al. [17] was the development of a sense of elitism (i.e. being part of a privileged group), which causes the group's empathy to change together. Nonetheless, as we have not collected data on these factors the above explanations may or may not apply in the case of the medical students in Kuwait.

Although we found no statistically significant differences between the desired specialty and empathy scores, those students who preferred 'people-oriented' specialties such as psychiatry, general internal medicine and family medicine had slightly higher mean scores compared to those who preferred 'technology-oriented' professions such as surgical specialties, radiology and pathology. Such observations were reported in previous studies [5, 19]. In this context, Hojat and Zuckerman [20] argued that the choice of future profession is a function of the

Table 2. Association between JSPE-S scores and parental characteristics and relationship

	n (%)	Mean ± SD	p value
Marital status of parents			
Married	231 (87.8)	104.8±16.5	0.828
Divorced	19 (7.2)	102.5±14.5	
One/both deceased	13 (5.0)	103.6±14.1	
Mother's education			
High school or less	51 (19. 4)	204.4±38.5	0.018
Diploma/degree	177 (67.3)	104.9±15.4	
Masters/PhD	35 (13.3)	103.9±14.9	
Father's education			
High school or less	50 (19.4)	207.0±33.2	0.905
Diploma/degree	128 (49.6)	104.8±17.1	
Masters/PhD	80 (31.0)	104.4±15.8	
Relationship with mother			
Current			
Satisfied	234 (89.3)	105.5±15.2	0.005
Neutral	7 (2.7)	105.0±15.2	
Unsatisfied	21 (8.0)	93.6±23.6	
Childhood			
Satisfied	227 (86.3)	105.7±15.3	0.017
Neutral	11 (4.2)	94.2±12.4	
Unsatisfied	25 (9.5)	99.3±23.0	
Relationship with father			
Current			
Satisfied	188 (72.3)	105.6±15.6	0.371
Neutral	26 (10.0)	102.3±16.4	
Unsatisfied	46 (17.7)	102.5±18.6	
Childhood			
Satisfied	195 (74.4)	105.4±15.4	0.313
Neutral	26 (9.9)	100.3±16.3	
Unsatisfied	41 (15.6)	104.3±19.3	

medical student's social skills (which include empathy) and interpersonal orientations developed prior to admission to medical school. As a result, students who find themselves generally comfortable in interacting with other people tend to choose professions that involve close contact and interpersonal relationships with patients, as opposed to those who are less sociable and more 'introverted'. It is established that empathy is an important component of sociability; hence, less 'sociable' students lean towards professions that involve minimum contact with patients and greater utilization of technical skills.

There was no statistical association between academic performance and empathy levels, despite previous studies that showed a positive correlation between grade point average and empathy scores [4]. However, the relationship between empathy scores and monthly household in-come was found to be significant where students coming from families with lower incomes were significantly less empathetic. This may be due to the role of the educational status of the parents and family income, which may have an effect on the way students develop certain emotional skills and hence empathy. Holocomb-McCoy [21] reported similar findings and argued that people with low income tend to have difficulties fitting into mainstream society, and therefore alienate themselves from the community that they believe has ignored them and their difficult lives. This evokes a maladaptive behaviour of passivity and absenting themselves from society. We also found the mother's educational level to be significantly associated with the student's empathy level. Students who reported the educational level of their mothers as less than high school scored lowest in contrast to those whose mothers had a more advanced education. Similar findings were reported previously and some attempted to explain this through the 'attachment theory' that indicates the role of early life experiences with the primary caregiver, who is usually the mother [22, 23]. This study indicates that a positive perception of the relationship with the mother during childhood had an influence on the empathy of the medical student. Previous studies showed that the perception of intimate care giving of the mother was significantly correlated with better self-confidence, higher social interaction and better trust in other people [23]. As empathy is an individual characteristic that is shaped by interpersonal relationships, people who have enjoyed positive relationships with their mothers throughout their upbringing are more likely found to display more empathy in social situations [5].

Previous researchers have also demonstrated a significant association between personality characteristics and empathy levels [24]. However, we found no statistically significant association between personality traits and empathy scores. Furthermore, our study found a weaker positive correlation between stress levels and empathy scores, indicating that those with higher stress are more empathetic than those with low stress scores. One possible explanation is that empathy involves both cognitive and affective components, the latter including sympathy, sensitivity and sharing of suffering, in which the anguish and ordeal of an individual is passed to another through the expression of empathy [25].

The limitations of this study included the fact that the Faculty of Medicine at Kuwait University is the only medical college in Kuwait and therefore we were limited to a single institution, which provided us with a small sample size. Hence, certain correlations were found to be not sig-

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nificant, possibly due to inadequate statistical power. Another problem was the language barrier. Empathy was tested using the JSPE-S. No validated Arabic version of this scale or any other empathy scale was available; a number of students faced some difficulties in English, possibly leading to a misinterpretation of the questions. Lastly, our study was cross-sectional in nature, which affected the assessment of the results of the directions of the associations.

Conclusion

Medical students in Kuwait University had low empathy level and this may be a cause for concern; as such we suggest a possible inclusion of emphasis on empathy in the curriculum.

References

1 Charon R: The patient-physician relationship. Narrative medicine: a model for empathy, reflection, profession, and trust. JAMA 2001;286:1897–1902

2 Thomas CL (ed): Taber's Cyclopedic Medical Dictionary, ed 18. Philadelphia, Davis, 1997.

3 Epstein RM, Siegel DJ, Silberman J: Self-monitoring in clinical practice: a challenge for medical educators. J Contin Educ Health Prof 2008;28:5–13.

4 Hojat M, Gonnella JS, Nasca TJ, et al: The Jefferson Scale of Physician Empathy: further psychometric data and differences by gender and specialty at item level. Acad Med 2002; 77:S58–S60.

5 Hojat M, Zuckerman M, Magee M, et al: Sympathy in medical students as related to specialty interest, personality, and perceptions of mother and father. Pers Individ Dif 2005;39: 1205–1215.

6 Hojat M, Mangione S, Nasca TJ, et al: The Jefferson Scale of Physician Empathy: development and preliminary psychometric data. Educ Psychol Meas 2001;61:349–365.

7 Aluja A, Rossier J, García L, et al: A cross-cultural shortened form of the ZKPQ (ZKPQ-50-cc) adapted to English, French, German, and Spanish languages. Pers Individ Dif 2006; 41:619–628.

8 Cohen S, Williamson G: Perceived stress in a probability sample of the US; in Spacapam S, Oskamp S (eds): The Social Psychology Of Health. Claremont Symposium on Applied Social Psychology, Newbury Park, 1988.

9 Chen D, Lew R, Hershman W, et al: A cross-sectional measurement of medical student empathy. J Gen Intern Med 2007;22:1434–1438.

10 Kliszcz J, Nowicka-Sauer K, Trzeciak B, et al: Empathy in health care providers – validation study of the Polish version of the Jefferson Scale of Empathy. Adv Med Sci 2006;51:219–225.

11 Kataoka HU, Koide N, Ochi K, et al: Measurement of empathy among Japanese medical students: psychometrics and score differences by gender and level of medical education. Acad Med 2009;84:1192–1197.

12 Roh MS, Hahm BJ, Lee DH, et al: Evaluation of empathy among Korean medical students: a cross-sectional study using the Korean version of the Jefferson Scale of Physician Empathy. Teach Learn Med 2010;22:167–171.

13 Rahimi-Madiseh M, Tavakol M, Dennick R, et al: Empathy in Iranian medical students: a preliminary psychometric analysis and differences by gender and year of medical school. Med Teach 2010;32:471–478.

14 Hojat M: Empathy in patient care: antecedents, development, measurement, and outcomes. New York, Springer, 2007.

15 Austin E, Evans P, Goldwater R, et al: A preliminary study of emotional intelligence, empathy and exam performance in first year medical students. Pers Individ Dif 2005;38: 547–558.

16 Winefield HR, Chur-Hansen A: Evaluating the outcome of communication skill teaching for entry-level medical students: does knowledge of empathy increase? Med Educ 2000;34: 90–94.

17 Brazeau CM, Schroeder R, Rovi S, et al: Relationships between medical student burnout, empathy, and professionalism climate. Acad Med 2010;85:S33–S36.

18 Evans BJ, Stanley R, Burrows D: Measuring medical students' empathy skills. Br J Med Psychol 1993;66:121–131.

19 Eisenberg N, Lennon R: Sex differences in empathy and related specialties. Psychol Bull 1983;94:100–131.

20 Hojat M, Zuckerman M: Personality and specialty interest in medical students. Med Teach 2008;30:400–406.

21 Holocomb-McCoy C: Alienation: concept for understanding low-income urban clients. J Humanist Educ Dev 2004;43:188–196.

22 Ainsworth MD: Attachments across the life span. Bull NY Acad Med 1985;61:792–812.

23 Ainsworth MD: Patterns of infant-mother attachments: antecedents and effects on development. Bull NY Acad Med 1985;61:771–791.

24 Kupfer DJ, Drew FL, Curtis EK, et al: Personality style and empathy in medical students. J Med Educ 1978;53:507–509.

25 Kirby H: The Relationship between Level of Empathy and Stress Contagion; thesis, University of Montana, Missoula, 2008.