

Empathy Among Medical Students

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Abstract

Introduction: Empathy is seen to be one of the key components of healthy doctor-patient relationships and is strongly linked to better patient outcomes. It is one of the personality traits that is thought to be crucial for the growth of interpersonal comprehension and for supporting communication skills. A crucial component of medical school is helping medical students who will one day practice medicine to become more empathetic. This study set out to determine the parameters that were connected with the mean empathy score of medical students at a private medical college.

Aims: To find out the empathy scores using TEQ questionnaire and compare the scores with socio demographic profile.

Materials and Methods: At mamata medical college, Khammam a cross-sectional study was carried out, study consists of 212 voluntary participants who are undergraduates studying MBBS with ages ranging from 16 to 27. Students belonging to the first, second, third, fourth year who are voluntarily willing to do the survey based on a questionnaire was sent to them to collect the data of the study. The 16 questions on the Toronto Empathy Questionnaire is used.

Results: The study respondents comprised of 212 MBBS students. Their ages ranged from 16 to 27 years. Majority were females 132 (62.3%), males 80 (37.7%) The overall mean TEQ score was calculated to be 42.47 ± 7.40 , with a Cronbach's alpha of 0.03. We assessed the association of various factors with empathy levels among these students. There was a significant association between empathy levels and year of study of the respondents. Analysis yielded a significant difference between mean

Conclusion: The average TEQ score among medical students at this Mamata medical college was 42.47 ± 7.40 . Higher Scores are seen in females (45.60 ± 7.42), first years (48.92 ± 8.05) and people belonging to Rural areas (44.13 ± 6.55).

Keywords: Empathy; Medical; Students.

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INTRODUCTION

Empathy is an important aspect of professionalism in medicine it has a strong

relationship with improved patient outcomes.¹ Empathy is a critical component of the patient doctor relationship, according to the Association of American Medical Colleges.² The ability to appropriately observe and understand another person's mood and feelings is commonly recognized as empathy. Empathy is essential for building relationships with and has been shown to encourage prosocial behavior by allowing one to react appropriately to others' reactions. Cognitive and emotional parts of the empathy framework were separated by Preston *et al.* Emotional empathy relates to the subject's reaction to the state of the object, whereas cognitive empathy refers to the subject's ability to grasp the state of the object. When expressing sympathy, the subject expresses "sorrow" for the other and concentrates more on the circumstance than the state of the target. Empathy is the state of the subject that arises from its perception of the state of the object. It differs amongst subjects of various ages and species.³

A 2012 study that reviewed a great deal of literature on the definitions and applications of empathy came to the conclusion that empathy, which is mediated by doctors understanding of patients problems is what results in positive outcomes for patients.⁴ One of the essential components of healthy doctor patient relationships is empathy.⁵ Hickson *et al.*'s two separate research revealed that communication issues between patients and doctors were the most often raised complaints in patient lawsuits.^{6,7} As a result of their discovery that doctors' empathy could reduce depression in cancer patients, Neumann *et al.* concluded that medical students and practicing doctors should undergo more rigorous evaluations of their empathy skills.⁸ Flickinger *et al.* found a statistically significant correlation between doctors' levels of empathy and their patients' adherence to treatment. Patients who were compliant were more likely to be treated by compassionate doctors.⁹ According to two distinct research on the management and outcomes of diabetic patients, patients had better outcomes when their doctors shown greater empathy. These studies highlight how crucial it is to have compassionate healthcare professionals as the foundation of a nation's healthcare infrastructure.^{10,11} and patients might benefit from efforts made to identify people who need training to increase their empathy levels.¹²

Students enter the medical field with the goal of helping people, treat illness, and enhance patients' quality of life. Altruism, which is an unselfish care for the welfare of others, is a quality that is

appropriate for people who work in medicine. Over time, altruism, which was a key component in fostering dialogue between medical students and patients, has decreased.¹³ Measuring a doctor's empathy with patients is a crucial indicator of their altruism. Clinicians are expected to possess the professional quality of empathy.¹⁴ Higher patient satisfaction and greater patient compliance are the result of medical students' growing empathy.¹⁵

In india a study conducted by gayatri *et al* concluded Empathy declines with advancing training, varying with constitutional and situational factors. The medical curriculum should include skills like empathic communication as well.¹⁶ Empathy training is a crucial component of medical education for today's medical students who will become tomorrow's doctors.¹⁷ Therefore, educational initiatives that foster empathy should be included in the undergraduate curriculum.¹⁸

The goal of the current study was to calculate the mean empathy score of medical students at Mamata medical college, Khammam and to determine the associating factors. The measurement of medical students' empathy levels will serve as a foundation for future research planning. The study's findings will also assist the college in putting in place worthwhile measures. This is the first study of its kind to be carried out among this group.

AIMS AND OBJECTIVES

To find out the empathy scores using TEQ questionnaire and compare the scores with socio demographic profile.

MATERIALS AND METHOD

This cross-sectional study was conducted At Mamata medical college in Khammam. The study consists of 212 voluntary participants who are undergraduates studying MBBS with ages ranging from 16 to 27. Students belonging to the first, second, third, fourth year who are voluntarily willing to do the survey based on a questionnaire were included to collect the data for the study. A structured questionnaire was used to collect data, which comprised of two sections. One section pertained to the socio-demographics such as age, gender, year of study, area of residence and parental education. The second section included the Toronto Empathy Questionnaire (TEQ).

Toronto Empathy Questionnaire

TEQ is a brief TEQ is a quick, accurate, and useful tool for measuring empathy. The 16 questions on the Toronto Empathy Questionnaire are graded on a five-point Likert scale from 0 to 4, with 0 denoting never, 1 denoting infrequently, 2 denoting occasionally, 3 denoting frequently, and 4 denoting always. Reverse coding is used for eight TEQ items, including items 2, 4, 7, 10, 11, 12, 14, and 15. The 16 questionnaire individual responses are summed to produce a total empathy score, which can be anywhere between 0 and 64. A greater amount of empathy is indicated by a higher mean empathy score while scores below 45 are indicative of below average empathy levels.¹⁹

Statistical Analysis

Data was entered and analyzed using SPSS 27.00. Categorical variables are described using proportions and percentages, whereas continuous variables such as age and Toronto empathy score are described using mean and standard deviation. Age was categorized into a multichotomies variable for analysis. Independent sample t-test and one-way ANOVA were used to determine association between mean Toronto empathy score and socio-demographic variables with significant p-value of age and gender and insignificant p-value for area of residency.

RESULTS

The study respondents comprised of 212 MBBS students. Their ages ranged from 16 to 27 years. Majority were females 132 (62.3%), males 80 (37.7%) The overall mean TEQ score was calculated to be 42.47 ± 7.40 , with a Cronbach's alpha of 0.03. We assessed the association of various factors with empathy levels among these students. There was a significant association between empathy levels and year of study of the respondents. Analysis yielded a significant difference between mean empathy scores in first year to final year. Gender ($p=0.000$) was also found to be significantly associated with empathy with females' mean TEQ scores (45.60 ± 7.42) being higher than males (39.95 ± 5.88). Students' permanent area of residence and its association with empathy also yielded significant results.

Table 1: Socio-Demographic Data

Variables		N(%)
Year of MBBS Study	First Year	56(26.5%)
	Second Year	51(24.0%)
	Third Year	52(24.5%)
	Final Year	53(25%)
Gender	Male	80(37.7%)
	Female	132(62.3%)
Area of Residence	Urban	120(56.6%)
	Rural	92(43.4%)

Table 2: Mean Teq Scores

Variable	Mean $\pm$ Sd
First Year	48.92 ± 8.05
Second Year	42.46 ± 5.20
Third Year	42.92 ± 4.67
Fourth Year	39.11 ± 7.37

Table 3: Association of mean Toronto empathy score and socio-demographic factors

Variables		Mean $\pm$ Sd	P Value
Gender	Male	39.95 ± 5.88	<0.005
	Female	45.60 ± 7.42	
Area of Residence	Urban	42.96 ± 7.98	<0.001
	Rural	44.13 ± 6.55	
	16 to 20	44.46 ± 7.58	
Age	21 to 24	43.40 ± 7.34	<0.488
	24 to 27	42.86 ± 7.31	

DISCUSSION

The overall mean empathy score was found to be 43.47 ± 7.40 . There was a significant difference in the mean empathy scores of students in different years of medical school. A decrease in empathy score was seen from first year to fourth year, with first year students displaying the highest level of empathy, and final year students having low empathy scores among the given study sample. oussef *et al.* discovered that among 662 medical students from all years, the year of study was substantially correlated with the mean Toronto empathy score in the West Indies University. They saw lowest scores on empathy in the final year.²⁰ A two year follow up study performed by gayatri *et al* at Dehradun has shown that empathy increases at the beginning of clinical exposure but later decreases as the clinical exposure increases.²¹ An inverse relationship has found between empathy

and clinical exposure in multiple studies.^{22,23,24,25} In the study of Kuwaiti medical students, the final year students scored low on empathy and drop may be attributed to exhaustion, burnout or adoption of a problem-based approach as opposed to a humanistic approach during clinical years.²⁶ At Shiraz Medical School in Iran, Hosseini also showed differences in empathy levels across different educational years. The first years were found to have the highest levels of empathy, whereas seventh-year medical students had the lowest levels.²⁷ Divergent findings have been reported by Haque *et al*, 224 medical students from all five years at the National Defence University of Malaysia had their empathy levels tested using TEQ, and they discovered no correlation between empathy levels and year of study.²⁸ The Serbian study likewise used TEQ to measure empathy levels and discovered no differences between first-year and fifth-year medical students in terms of empathy.²⁹ In this study it is found that females (45.60 ± 7.42) mean score are more empathetic than males (39.95 ± 5.88) and that is in line with other research around the world, women are more empathic than men. Haque *et al* also identified females to be more empathetic as compared to male students.³⁰ Bangash *et al* showed females to have higher levels of empathy as compared to males.³¹ There are many explanations given for these findings, one of which is that women, who care for their children as mothers, have more compassionate, humane, and tender-hearted personalities than men. This compassionate attitude improves treatment outcomes. Additionally, women are more aware of their emotions, which enhances doctor-patient communication.

CONCLUSION

The average TEQ score among medical students at this Mamata medical college was 42.47 ± 7.40 . Compared to all other years, first year medical students had the highest mean TEQ score. Gender, residence, academic year, and mean empathy scores were all found to differ statistically. Developing training programs in ethics, behavioral sciences, and other topics may aid in keeping medical students' empathy levels high. We advise conducting a prospective study in which medical students' empathy levels should be evaluated each year from the moment they enroll in medical school until they graduate in order to estimate a real change in such levels.

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