

Empathy Levels of Dental Undergraduate Towards Their Patients During Practice – A Cross-Sectional Study

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ABSTRACT

Background: Empathy in dental practice is pivotal for establishing trust, enhancing patient satisfaction, and promoting overall well-being. **Objective:** To assess the empathy levels of dental undergraduate towards their patients during practice. **Study Design:** Cross sectional study. **Settings:** Department of Prosthodontics, CMH Lahore Medical College. **Duration:** From December 2022 to May 2023. **Methods:** Total 225 dental undergraduates currently enrolled in a dental program and students those actively engaged in clinical practice or patient interactions during the study period were included in this study. Patients with a history of behavioral or mental health conditions that may significantly impact empathy levels were excluded from study. Empathy levels were assessed using the Jefferson Scale of Empathy – Healthcare Providers Version (JSE-HP), a widely recognized and validated instrument for measuring empathy in healthcare professionals. **Results:** The patients had a mean age of 23.5±3.1 years. The age range varied from 24 to 34 years. In terms of gender distribution, 57.8% were male, while 42.2% were female. Regarding the participant's year of under graduation the majority were distributed across different years like 26.7% in the 1st year, 31.1% in the 2nd year, 24.4% in the 3rd year, and 17.8% in the 4th year. Among the undergraduate participants, 37.77% fell into the category of Moderate Empathy (JSE scores between 70 and 79), with a mean empathy score of 77.5 ± 6.3. The High Empathy category (JSE scores between 80 and 89) comprised 46.66% of the participants, and their mean empathy score was 82.3 ± 5.7. The quantitative data from the JSE-HP were analyzed using statistical software SPSS version 23.0. **Conclusion:** The study revealed a decline in the mean empathy scores (JSE-HPS) among dentistry students as students advance through the years of their dental education. Highlighting the importance of empathy in the dentistry curriculum is essential for strengthening the bond between dentists and patients, which in turn leads to better treatment results.

Keywords: Communication skills, Dental practice, Dental undergraduates, Empathy levels, Student-patient relationship.

INTRODUCTION

Empathy plays a pivotal role in the healthcare profession, fostering a compassionate connection between healthcare providers and their patients. In the realm of dentistry, where patient-provider interactions are intimate and often involve anxiety or discomfort, the cultivation of empathy is particularly crucial.^{1,2} Dental Undergraduate, as future leaders in oral healthcare, are

entrusted not only with the technical aspects of dentistry but also with the responsibility of delivering patient-centered care.³

Recognizing the importance of empathy, dental education programs are increasingly incorporating structured modules aimed at enhancing this aspect of patient care. Empathy in dentistry involves the ability to comprehend and share the feelings of patients,

acknowledging their emotional state and responding with sensitivity.⁴ Dental Undergraduate, through empathy training, learn to navigate the intricacies of patient emotions, establishing rapport, and creating an environment conducive to open communication. This skill is particularly vital in a dental setting where patients may experience anxiety, fear, or apprehension. These pedagogical approaches provide dental Undergraduate with opportunities to develop a deep understanding of patients' perspectives and foster a more holistic approach to oral healthcare. By placing themselves in the shoes of the patient, Undergraduate can better grasp the emotional challenges associated with dental procedures, ultimately leading to improved patient experiences.^{5,6}

Furthermore, empathetic dental practitioners contribute to enhanced treatment adherence and patient satisfaction. Patients are more likely to follow through with recommended treatments when they feel heard, understood, and respected by their dental care providers.^{7,8} This, in turn, can positively impact oral health outcomes and overall well-being. By emphasizing the importance of empathy in dental practice, educational programs contribute to the development of a new generation of dentists who not only excel in clinical skills but also prioritize the emotional well-being of their patients.⁹

Our study addresses a critical gap in existing literature by providing a comprehensive analysis of empathy levels specifically within the context of dental postgraduate education. As oral healthcare becomes increasingly patient-centered, understanding and enhancing empathy in dental practice are paramount. Our research aims to contribute nuanced insights into the dynamics of empathetic interactions in dental settings, offering a unique perspective on how Undergraduate navigate patient emotions. This study will provide valuable data to inform tailored interventions and curriculum enhancements, fostering a more empathetic dental care environment.

METHODS

After approval from the hospital's ethical review board (ERB) Case #.501/ERC/CMH/LMC), this cross-sectional study was conducted at Department of Prosthodontics, CMH Lahore Medical College from December 2022 to May 2023. All participants provided informed consent to voluntarily participate in the study. Total 225 dental undergraduates currently enrolled in a dental program and students those actively engaged in clinical practice or patient interactions during the study period were included in this study. Dental undergraduates not currently enrolled in a dental program and in clinical practice or patient interactions during the study period. Patients with a history of behavioral or mental health

conditions that may significantly impact empathy levels were excluded from study. Empathy levels were assessed using the Jefferson Scale of Empathy - Healthcare Providers Version (JSE-HP), a widely recognized and validated instrument for measuring empathy in healthcare professionals. The categorization of empathy levels based on the Jefferson Scale of Empathy (JSE) scores specific cutoffs was used as low empathy (JSE score below 50), moderate empathy (JSE score between 51 and 70), high empathy (JSE score between 71 and 90) very high empathy (JSE score above 90). Clear instructions on how to complete the instruments were provided.

The quantitative data from the JSE-HP were analyzed using statistical software SPSS version 23.0. Descriptive statistics, including mean and standard deviation, were calculated to summarize empathy scores. Subgroup analyses based on demographic variables were conducted.

RESULTS

The patients had a mean age of 23.5 ± 3.1 years. The age range varied from 24 to 34 years. In terms of gender distribution, 57.8% were male, while 42.2% were female. Regarding the participants' stage of undergraduate training, the majority were distributed across different years as follows: 26.7% in the 1st year, 31.1% in the 2nd year, 24.4% in the 3rd year, and 17.8% in the 4th year as given in table 1.

Table 1: Demographic Characteristics of Dental Undergraduate

Variables	Category	Number (%)
Age (Years)	Mean \pm SD	28.5 ± 3.1
	Age Range	24 - 34
Gender	Male	130 (57.8%)
	Female	95 (42.2%)
Year of Undergraduate	1st Year	60 (26.7%)
	2nd Year	70 (31.1%)
	3rd year	55 (24.4%)
	4th year	40 (17.8%)

The Jefferson Scale of Empathy (JSE) scores were categorized into different empathy levels. Among the undergraduate participants, 37.77% fell into the category of Moderate Empathy (JSE scores between 70 and 79), with a mean empathy score of 77.5 ± 6.3 . The High Empathy category (JSE scores between 80 and 89) comprised 46.66% of the participants, and their mean empathy score was 82.3 ± 5.7 . Additionally, 15.55% of the participants exhibited Very High Empathy (JSE scores between 90 and 100), with a mean empathy score of 93.2 ± 3.6 . The overall mean empathy score was 85.1 ± 7.2 among total enrolled dental students. This suggests a relatively high average empathy score across the assessed population, as given in table 2.

Table 2: Empathy Scores and Jefferson Scale of Empathy (JSE) Comparison

JSE Empathy Score Category	Number of Undergraduate	Mean Empathy Score Mean \pm SD
Moderate Empathy (70-79)	85 (37.77%)	77.5 \pm 6.3
High Empathy (80-89)	105 (46.66%)	82.3 \pm 5.7
Very High Empathy (90-100)	35 (15.55%)	93.2 \pm 3.6
Overall Empathy	Total	85.1 \pm 7.2

Table 3 presents the Mean \pm SD of empathy levels categorized by gender and years of postgraduate training among dental students. In terms of gender, male participants (57.8%) exhibited a mean empathy score of 76.8 \pm 9.1, while female participants (42.2%) had a higher mean empathy score of 79.5 \pm 7.2. The difference between genders was statistically significant (p -value $<$ 0.05), indicating that gender influenced empathy levels. Regarding years of postgraduate training, the distribution of participants across different years was as follows: 1st Year (26.7%), 2nd Year (31.1%), 3rd Year (24.4%), and 4th Year (17.8%). First-year students had a mean empathy score of 77.3 \pm 8.9, second-year students scored 79.1 \pm 7.5, third-year students scored 78.7 \pm 8.2, and fourth-year students had the highest mean empathy score of 80.5 \pm 6.8. Statistically significant differences ($p < 0.05^*$) were observed between the empathy scores of first-year and fourth-year students. However, the one-way ANOVA results showed no statistically significant difference in mean empathy scores across these years (p -value = 0.3061).

Table 3: Mean \pm SD of empathy levels across gender and years of training

Variables	Category	Number (%)	Mean Empathy Score Mean \pm SD	P-value
Gender	Male	130 (57.8%)	76.8 \pm 9.1	$<$ 0.05*
	Female	95 (42.2%)	79.5 \pm 7.2	
Year of Postgraduate Training	1 st Year	60 (26.7%)	77.3 \pm 8.9	$<$ 0.05*
	2 nd Year	70 (31.1%)	79.1 \pm 7.5	
	3 rd year	55 (24.4%)	78.7 \pm 8.2	
	4 th year	40 (17.8%)	80.5 \pm 6.8	

One way ANOVA applied *Statistically Significant difference found

DISCUSSION

In the context of patient care, empathy is characterized as a cognitive attribute encompassing the ability to comprehend the patient's concerns, pain, distress, and perspective. This involves not only understanding but also effectively communicating this understanding, coupled with a genuine intention to provide assistance. Recognizing its pivotal role in fostering a positive dentist-patient relationship, the American Dental Education

Association has underscored empathy as the second most critical clinical competency in dental training.¹⁰

Our study revealed an overall mean empathy score of 85.1 \pm 7.2 among the total enrolled dental students. A study conducted by Saha *et al.* (2021) reported a mean empathy score of 88.34 \pm 93.37, which aligns with the findings of our study and similar study conducted by Díaz Narváez VP *et al.*(2015).^{11,12} Notably, Nazir *et al.* reported a considerably higher mean empathy score of 96.75 \pm 13.76, showcasing a potential variability in empathetic attitudes among dental students.¹³ Contrasting our results with the study conducted by Naguib *et al.* in Jeddah, where the mean empathy score was 84.84 \pm 11.28, our study suggests a slightly higher mean empathy level among dental postgraduates.¹⁴ These differences in empathy scores could be influenced by factors such as educational approaches, patient interactions, and cultural contexts specific to each study's setting. Examining international comparisons, our study's findings resonate with the global diversity in empathy levels among dental students. American dental students, as reported by a previous study, exhibited a high mean empathy score of 117.71 \pm 14.06, while Nigerian¹⁵ and Pakistani¹⁶ dental students also demonstrated relatively high empathy scores of 104.01 \pm 19.64 and 101.15 \pm 13.73, respectively.¹⁶

Our study contributes to the discourse on empathy in dental education; the observed increase in mean empathy scores from first-year to fourth-year students aligns with findings from Naguib's *et al.* (2020) study, emphasizing a consistent trend toward heightened empathy as students progress in their dental education.¹⁷ However, our results contrast with recent studies reporting declines in empathy during advanced clinical training and the fifth year. This discrepancy underscores the complexity of factors influencing empathy in dental students, such as evolving clinical exposure and shifting educational contexts. While Varghese and Sapna *et al.* (2019) found no significant differences between third and fourth-year undergraduate students, our focus on postgraduates highlights the need for nuanced investigations tailored to different phases of dental education.¹⁸ Kalyan *et al.*'s (2017) identification of lower empathy levels among interns emphasizes the importance of addressing empathy throughout the entire dental education continuum. Our study contributes valuable insights for developing targeted interventions to foster and sustain empathy in dental postgraduates.¹⁹

Notably, our findings revealed that female participants, constituting 42.2% of the cohort, exhibited a higher mean empathy score (79.5 \pm 7.2) compared to their male counterparts (57.8%) with a mean score of 76.8 \pm 9.1. This aligns with a global trend observed in studies by Haque

et al. and Bangash et al., consistently identifying females as more empathetic than their male counterparts.^{20,21}

CONCLUSION

The study revealed a decline in the mean empathy scores (JSE-HPS) among dentistry students as students advance through the years of their dental education. Highlighting the importance of empathy in the dentistry curriculum is essential for strengthening the bond between dentists and patients, which in turn leads to better treatment results.

LIMITATIONS

A potential limitation of this cross-sectional study is its inability to capture the dynamic nature of empathy development over time, as it provides a snapshot of empathy levels at a specific point in the dental undergraduate program, without assessing changes longitudinally.

SUGGESTIONS / RECOMMENDATIONS

Implementing structured empathy training modules in dental undergraduate curricula can enhance the empathy levels of students.

CONFLICT OF INTEREST / DISCLOSURE

None.

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